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THE AGRICULTURAL SURVEY OF EUROPE.

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I T A L Y

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AN AGRICULTURAL SURVEY OF ITALY.

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This analysis of the trend of agricultural production in Italy aims to give the reader a brief outline of those economic factors necessary for an accurate appraisal of the agricultural tendencies of the Italian nation. In Italy, as in many other European countries, such an analysis involves more than a simple study of production and trade statistics. One of the greatest difficulties is that the comparison of a pre-war period with the present post-war period involves a change of national boundaries. Changes in boundaries have not had a profound effect upon the agricultural economic situation in Italy, yet an accurate appraisal of Italian agriculture can be made only by taking them into consideration.

The agricultural data pertaining to the Trentino and Triest districts as reported by the Austrian Government before the World War are not in all ways comparable with the data reported by the Italian Government since the war. Estimates have been made wherever possible to form an approximate basis for comparing the pre-war with the post-war periods.

AREA AND POPULATION.

Italy, including the recently acquired provinces, has an area of approximately 76,600,000 acres and a population of around 41,000,000. It is interesting to compare these figures with those of California, a State in which the distribution of mountains, coast lands and farm lands is in many ways analogous to Italian conditions, but which has a larger area - 99,600,000 acres - and a population of only 3,426,000 people. The climate of California is similar to that of Italy and the products have much in common. Yet because of the pressure of population upon the food supply in the one country as compared to the other, the economic phases of their agriculture are vastly different. The paramount agricultural issue in Italy from the standpoint of the nation is that of supporting a hungry population, furnishing by domestic production the greatest possible portion of their food requirements. In California the issue is that of finding markets outside the borders of the state sufficiently profitable to support a hungry agricultural industry. In a limited way this difference is characteristic of the economic phases of agriculture in Europe as compared to America.

At present Italy has 342.6 inhabitants for every square mile of land. Compare this density to that of the United States with its 36.3 persons per square mile, or to California with less than 31.1 persons

per square mile. Italy's present annual rate of increase is slightly above 18 persons per 1000 inhabitants. (Table 1.) Between 1911 and 1921 she had added to her population by a number equal to about 13 people for every square mile of area.

Table 1. Number, density per square mile, and rate of increase of population in Italy - 1862-1924.

Y e a r	p o p u l a t i o n		
	Total	Per sq.mile	Average yearly increase per 1000
	<u>Number</u>	<u>Number</u>	<u>Number</u>
1862	25,000,000	225.8	1.4
1872	26,801,154	242.2	7.2
1882	28,459,628	257.2	6.2
1901	32,475,253	293.4	7.4
1911	34,671,377	313.1	6.8
1911	36,191,187 <u>1/</u>		
1921 (Within former boundaries)	37,276,738	336.7	7.5
1921 (Including annexed territory)	38,835,941	325.6	7.6
1924 (Including annexed territory)	41,000,000	342.6 <u>2/</u>	18.6

Documenti sulla condizione finanziaria ed economica dell' Italia
allogati al discorso tenuto a Milano il 13 Maggio 1923.
Liberia dello Stato, Roma, 1923.

Supplemento alla Gazzetta Ufficiale. No. 246. 20 Ottobre, 1924
Ministero delle Finanze. Roma.

1/ Includes estimate for annexed territory.
2/ Area for 1923 used - See Table 5.

During the year 1923 the live births amounted to 29 per 1000 inhabitants while the deaths for the same year were 17 per 1000 inhabitants. Births exceeded deaths by a ratio of nearly 2 to 1. (Table 2.) Not only does the present dense population heavily tax the productive resources of the country, but it continues to increase at a rapid rate. One of the grave problems of the country is that of making production, both industrial and agricultural, keep pace with the demands of a rapidly growing population.

Table 2. Marriage, birth and death rates in Italy - 1914-1923.

Y e a r	Rate per 1000 of total population			
	Marriages	Live Births	Deaths	Excess births over deaths
	<u>Number</u>	<u>Number</u>	<u>Number</u>	<u>Number</u>
1914	7.03	31.07	17.94	13.13
1915	5.10	30.48	20.36 <u>1/</u>	10.12
1916	2.88	24.01	19.66 <u>2/</u>	4.35
1917	2.72	19.45	19.20 <u>3/</u>	0.25
1918	2.98	18.10	32.97 <u>4/</u>	- 14.87
1919	8.83	21.20	19.02	2.18
1920	13.96	31.85	18.81	13.04
1921	11.70	30.40	17.50	12.90
1922	8.74	28.55	16.66	11.89
1923 <u>5/</u>	8.48	29.27	16.55	12.72

Documenti sulla condizione finanziaria ed economica dell' Italia - 1923.

- 1/ Includes 30,476 deaths caused by the earthquake of January 13, 1915; excludes 69,763 killed at the front, for whom death certificates were not received.
- 2/ Exclusive of 134,351 killed at the front for whom death certificates were not received.
- 3/ Exclusive of 246,773 killed at the front for whom death certificates were not received.
- 4/ Exclusive of 109,933 killed at the front for whom death certificates were not received.
- 5/ Supplemento della Gazzetta Ufficiale del Regno d'Italia del 20 Dicembre 1924.

Emigration: One way of relieving population pressure is to reduce the population by emigration. Italy has had free recourse to the remedy during the past 20 years as shown by the data in table 3.

Table 3. Emigration of Italy - 1906-1923.
Emigrants from Italy

Y e a r	To All Countries	To Europe and Med- iterranean Basin	Overseas
	<u>Number 1/</u>	<u>Number</u>	<u>Number</u>
1906	787,977	276,042	511,935
1910	651,475	248,696	402,779
1913	872,598	313,032	559,566
1917	46,496	33,483	13,013
1920	412,221	200,994	211,227
1921	278,642	84,328	194,320
1922	276,964	155,554	121,410
1923	403,653	225,800	177,853

1906-10: Annuario statistico italiano seconda serie Vol. 1911
Direzione Generale della Statistica e del Lavoro,
Bertero, Roma, 1912.

1913-17: Idem seconda serie Vol. VII Anni 1917 e 1918
Ufficio Centrale di Statistica.

1920-22: Documenti sulla condizione Finanziaria ed Economica
dell' Italia, Libreria dello Stato, Roma, 1923.

1923: Supplemento della Gazzetta Ufficiale, No. 296,
20 Dicembre 1924.

1/ Number to whom passports were issued.

The apex of emigration was reached in 1913, when nearly 900,000 people left the country, of whom 559,566 went to North and South America. During the war emigration fell to a negligible quantity, the small number of emigrants being largely exceeded by the number of those who returned to Italy. The year 1920 was one of heavy emigration, accounted for by a long period of suspension. Since then restrictive legislation in immigration countries has made the Italian situation more difficult. On the other hand, increased agricultural and industrial activity in Italy has made it less pressing. Steady efforts by the Commissioner of Emigration secured an outlet for

over 400,000 in 1923. Emigration figures may be expected to remain for some years around the 1923 mark, a large proportion to consist of emigrants going to France for temporary periods.

The effect of emigration on Italian agriculture has been twofold. In the nineties, the results in Southern Italy were injurious. Whole districts were depopulated of their young manhood. Agricultural labor became scarce. The non-working landowners, often absentee, were unable to procure help for farming their acres. Many were ruined. Land went out of cultivation or was neglected from lack of labor. The government and the local authorities, though helpless in restricting the exodus, looked upon it with alarm. In 1911 an eminent agricultural statistician was able to show that events had modified this situation, since remittances from emigrants were supplying capital needed for the promotion of agriculture in the southern provinces. 1/ The government inquiry into the condition of the peasantry in the south (1908-10) showed that no less than \$67,550,000 were annually coming into the southern provinces from this source. The returned emigrant became a purchaser of land. Land values rose rapidly as a result. Unable to secure the casual labor they required, land owners sold their estates in small holdings to men who had formerly worked them for a pittance. New ideas and wider experience led to improved methods. The land became capable of supporting a larger population.

The important fact to be noted is that Italy can no longer depend upon wholesale emigration for relief from the pressure of population upon her agricultural resources.

Agricultural Population

The welfare of a nation with a population predominantly agricultural must of necessity depend in a large measure upon returns from the products of the soil. On the other hand, a nation predominantly industrial, like England, may support a dense population per square mile with little regard to local agricultural conditions. Hence in measuring the dependence of a nation upon its agricultural resources one is interested in knowing the division of population according to the occupations followed.

Analysis of the occupation portion of the 1921 census has not yet been completed, hence the latest data available on this subject are those contained in the 1911 census. The population of Italy in that year was 34,671,377. Of this number 9,026,076, or 26 per cent, were actually engaged in agricultural pursuits. Of those so engaged approximately two-thirds (67.1 per cent* were male and one-third (32.9 per cent) were female. Of all male persons productively employed in 1911, 46.9 per cent were engaged in agriculture. (Table 4.)

1/ Valenti, Ghino - L'Italia Agricola dal 1860 al 1911.

Table 4. Number of people over 10 years of age occupied in Italy, classified according to occupations, 1911.

Occupation	Population engaged in specified industries					
	Male		Female		Male and Female	
	Total	Percentage of all occupations	Total	Percentage of all occupations	Total	Percentage of all occupations
	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>
Agriculture	6,053,193	46.9	2,972,883	21.7	9,026,076	34.0
Fisheries	59,023	0.5	498		59,521	0.2
Industries for preparation of products of agriculture and fisheries	1,054,862	8.2	207,057	1.5	1,261,919	4.7
Mines and quarries	110,034	0.9	3,194		113,278	0.4
Metal trades	496,907	3.9	21,517	0.2	518,424	2.0
Engineering and building	894,853	6.9	35,215	0.3	930,068	3.5
Textile	289,405	2.2	1,068,376	7.8	1,357,781	5.1
Chemical	64,631	0.5	35,878	0.3	100,509	0.4
Printing, power lights, transports sanitation	637,645	4.9	26,370	0.2	664,015	2.5
Business	722,774	5.6	198,804	1.5	921,578	3.5
Civil service, professional, arts	865,975	6.7	551,370	4.0	1,417,345	5.3
Non-professional occupations	1,625,322	12.6	8,552,476	62.5	10,177,798	38.3
Unspecified professional occupations	25,173	0.2	6,563		31,736	0.1
Total	12,399,847	100.0	13,680,201	100.0	26,580,048	100.0

The distribution of the rural population varies greatly in the several sections. It is highest in the Abruzzi (south-east) where 65 per cent of the total male population is engaged in agriculture, and lowest in Liguria (north-west) where the percentage falls to 26 per cent.

Of all the women and girls employed in Italy in 1911, about 22 per cent were on the farms. The percentage of women employed in agriculture varies greatly in the different sections of the country, falling from 30 per cent of the female population of the Marche, where farming is carried out by the family group and poultry farming is an important feature, to 5 per cent and 2 per cent, respectively, in Sicily and Sardinia.

An eminent economist of the University of Cagliari ^{1/} considers that the census returns underestimate the number of small landowners and tenants, especially in the case of women belonging to the families of this class. He believes that at least another 1,015,000 women should be added to the total of 9,026,076 persons over ten years of age listed as engaged in agriculture.

In a total population in 1911 of 34,671,377 people, 17,507,000 belonged to family groups whose head was employed in agriculture.

Of the million individuals not residing with the family group, but dwelling at the time of the census in barracks, hospitals, prisons or workmen's camps, at least half belonged to the rural population, bringing the total membership of families whose heads were engaged in farming up to 18 million, over half the entire population.

With nearly one-half the employed male population actually engaged in agriculture, and with over one-half the population directly dependent upon the soil for a living, Italy can be classed as a distinctly agricultural country. The steady growth of the cities since 1911 indicates an increased tendency to industrial activities. On the other hand, the decrease of emigration during and since the war, and the prosperity enjoyed by agriculture during recent years, has tended to keep the people on the land.

TREND OF AGRICULTURAL PRODUCTION.

General Conditions.

Italy has within a small area a wide diversity of soil, elevation, rainfall, and temperature. Social conditions and economic customs differ widely from place to place. These differences emphasize, in part, the influence played by historical backgrounds on local communities. Because of these physical, social, and economic variations, the agriculture of Italy covers a range as wide as that covered by the agriculture of Europe.

^{1/} Professor Francesco Colletti.

In the Alpine districts of Lombardy, Venetia and Piedmont, stock-breeding and forestry industries are pursued on lines not unlike those of Switzerland; in the irrigated valley of the Po the farming is that of the most progressive countries of Northern Europe; in the districts of Polesine and Ferrara in the Venetian provinces, where land reclamation and drainage projects have been developed extensively, farming is similar to that carried on in the rich pasture districts of Holland. The vineyards of Piedmont are comparable with those of France; those of Latium, Apulia and Sicily with Spanish vineyards. The highly diversified farms of Tuscany, where wheat is grown between rows of vines festooned from branch to branch of the willow trees which act as their props, with fruit trees scattered about the fields, and olive groves utilizing the otherwise barren hill-sides, are characteristically Italian. On the other hand, the large wheat farms of the Apulian table land with their industrialized agriculture, exhibit a form of farming similar to that prevailing in Eastern Europe.

Rye and oats are grown in the north. Rice is a staple crop in Lombardy; mulberry leaves and the breeding of silkworms are a source of wealth to the farmers of the North-East; chestnuts are grown on an extensive scale in the Tuscan Apennines; citrus fruits, almonds, olives, sumach, and on a small scale, cotton, are staple crops in Sicily. Wheat and the vine are common throughout the peninsula.

Economically the diversification is no less striking. On the one hand are the large estates, the Latifundia of the Romans, on which extensive agriculture is conducted by the most primitive systems, under the most backward of social conditions. On the other extreme, intensive farming in highly developed phases is found. Throughout the country there are small farms on which specialization has been developed to a fine point; and others on which the variety of crops is surprisingly numerous. Income from lands actually under cultivation ranges from less than 10 lire per acre to over 10,000 lire per acre.^{1/} Agriculturally, Italy does not lack variety.

Climatically there is a great difference between North and South. In North Italy, including the valley of the Po, Piedmont, and the Venetian Provinces, rather cold winters are the rule, with heavy snowfall and long periods of frost. Here the soil may be frozen from the middle of November to the end of March. The summers are hot with a plentiful rainfall. Climatically this section belongs to Northern Europe. As soon as the Apennines are crossed, the climate changes to that of the Mediterranean Basin, with mild, rainy winters, and dry summers. In Milan, the capital city of Lombardy, there is an average of 59 days of frost; in Palermo, the capital of Sicily, not one day of frost has been registered for a whole series of years. Yet in the summer, owing to the greater humidity, the north seems hotter than the south.

^{1/} Value of a lira at par = 19.30 cents. Yearly average for 1924 = 4.358 cents

The average temperature calculated for the period 1871-1912 varied between a winter mean of 35.2 degrees and a summer of 71.1 degrees Fahrenheit in Turin; 42.3 and 73.8 at Florence; 45.5 and 74.5 at Rome; 48.0 and 73.6 at Naples; and 52.2 and 74.8 at Palermo.

The average rainfall for the same series of years was 34.6 inches in Turin; 33.4 in Florence; 35.4 in Rome; 34.0 in Naples; 28.6 in Palermo; and 23.6 in Sassari (Sardinia). The highest rainfalls in the North are registered during the months of May, June, July and September; in the South during the months of November, December and January. But because of the torrential character of these rains the precipitation as indicated in inches is not an indication of available moisture for agriculture to the degree that obtains in countries where rainfall is better distributed throughout the year.

Italy is often referred to as the "Garden of Europe," but it is a mistake to interpret this as meaning that the country is uniformly rich in agricultural production. A large area is occupied by rocky and unproductive mountains. Past generations are responsible for the destruction of the forests which clad these mountain sides, and this has resulted in unregulated water-courses of a torrential character, with seasonal floods alternating with droughts. Much has been done during the past thirty years to reclaim marsh lands, but there are still large areas of swamps with the attendant evil of malaria. Few European countries have so large a proportion of their territory irredeemably unsuited to agriculture or reclaimable only at a heavy capital outlay. The agricultural wealth which Italy can claim is not so much due to the bounty of nature as to the diligence of her farmers. Even the rich plains of Lombardy are the creation of past generations, who drained, levelled, irrigated and fertilized them. The bare mountain sides of Liguria have been terraced and the very soil brought to them on the backs of men and women. The swamps of Venetia, the Tuscan Maremma, the low lying country at the mouth of the Po around Ravenna have been drained and reclaimed by the industry of the inhabitants.

Consequently, where Italian agriculture is most productive it is also most costly, not only in view of current working expenses, but in view of capitalized expenditure on land reclamation. It is estimated that the irrigated system to which South Lombardy owes its productivity represents an outlay of no less than one billion gold lire on an area of some 2,223,900 acres - about \$81 per acre. In the province of Bologna reconstructed farm lands obtained by filling in hollows with soil secured by levelling elevations have cost for such work from 600 to 800 gold lire per acre. ^{1/} Practically all this work was carried out when the purchasing value of money was much higher than in years immediately preceding the war. It is safe to say that the yield of the most fertile

^{1/} Value of a lira at par = 19.30 cents. Yearly average for 1924 = 4.358 cents.

land in Italy represents no more than a very moderate return on the capital invested in it.

Italy can point to no rich belt of black earth such as supplies the agricultural wealth of the Ukraine and Hungary, and in Southern Italy the dry summers and scorching winds which come from the African desert are highly unsuited to the cereal crops that are, nevertheless, so widely cultivated.

Pre-War Utilization of the Land

Approximately 45.8 per cent of the land area in Italy (present boundaries) was under the plow in 1913. This is an astonishingly large proportion when the mountainous character of the country and the semi-arid nature of the climate are considered. It is, perhaps, more exact to say that 45.8 per cent of the area was under the plow and the spade. Hand tillage explains in part the large proportion of cultivated lands. All land in Italy that will return a bare subsistence is utilized. If the Italian industries continue to absorb increasing proportions of the population so that the general standard of living becomes higher, it is reasonable to expect that much sub-marginal land now being cultivated may revert to pasture or forest uses. This decrease in plow land may be offset by additions through reclamation and by irrigation and drainage projects of lands subject to profitable exploitation. Such reclamation can be accomplished, however, only by means of heavy capital expenditures.

In addition to the land under plow in 1913, another 5.1 per cent of the total area of Italy was in vineyards, olive groves, citrus and other orchards. Hence, in all about one-half of the land area may be considered, strictly speaking, as tilled land. The remaining area was divided roughly as follows: Natural meadows and pastures 21.5 per cent; forests 17.4 per cent; lands termed uncultivated but productive 3.4 per cent; and non-agricultural lands 10.4 per cent. (See Table 5.) These categories outside the pastures and meadows have little agricultural value when measured by the standards of our own country.

It is not easy to measure the total or ultimate utilization of plowed lands in terms of area because of the practice of growing two or more crops on the same land at the same time. For instance, in the Po Valley, it is a general practice to plant rows of mulberry trees for silk-worm culture from 100 to 300 yards apart. Between these rows the ordinary cultivated crops are grown, and grapes are grown in the rows and with the trees. The same land is used at the same time for growing a cultivated crop, like corn or wheat, mulberry leaves and grapes.

It is also the practice to grow, wherever possible, two crops upon the same plot of land, the secondary crop being planted immediately following the harvesting of the primary crop.

Table 5. Utilization of Land in Italy - 1913, 1922 and 1923.

Classification	1			9			1			9			2			2			3		
	Old boundaries	Annexed territory	Total	Present boundaries			Total	Percentage of total plow land and of to- tal area			Total	Percentage of total plow land and of to- tal area			Total	Percentage of total plow land and of to- tal area					
				1000 Acres	1000 Acres	1000 Acres		Per cent	1000 Acres	1000 Acres		Per cent	1000 Acres	1000 Acres		Per cent					
Plow lands:																					
Cereals 1/	17,927	313	18,240			52.1	17,515			48.6	17,567			48.8							
Legumes	2,185	15	2,201			6.3	2,183			6.1	2,191			6.1							
Industrial plants	431	2	433			1.2	442			1.2	518			1.4							
Tubers	525	56	581			1.7	638			1.8	635			1.8							
Kitchen gardens	247	14	261			.7	381			1.1	381			1.1							
Forage and fodder plants	10,712	63	10,775			30.7	11,738			32.6	11,599			32.2							
Fallow	2,527	12	2,539			7.3	3,113			8.6	3,091			8.5							
Total plow lands	34,584	476	35,060			100.0	2/35,010			100.0	35,982			100.0							
Plow lands	34,584	476	35,060			45.3	35,010			47.0	35,982			45.9							
Natural meadows and pastures	15,632	699	16,331			21.3	16,713			21.8	16,799			21.9							
Vineyards	2,197	160	2,357			3.1	2,011			2.6	2,002			2.5							
Olives	1,344	3/	1,344			1.8	1,435			1.9	1,432			1.9							
Citrus fruits	114	3/	114			0.1	268			0.3	118			0.2							
Orchards and nurseries	30	1	81			0.1	135			0.2	136			0.2							
Forests	11,277	4/	13,337			17.4	13,788			18.0	13,796			18.0							
Non-agricultural area	5,593	5/	7,944			10.4	6,330			8.2	6,332			8.3							
Total area	70,821	6/	76,568			100.0	2/76,691			100.0	76,597			100.0							

Notizie Periodiche di Statistica Agraria.

Annexed territory estimated from Statistisches Jahrbuch des K.K. Ackerbauministeriums - Austria.

^{1/} Includes rice. ^{2/} Totals do not agree with original source, but are additions of figures, since totals do not check in original source. ^{3/} Not available separately. If any, included in non-agricultural area. ^{4/} From International Institute Les Forêts, 1924. ^{5/} Derived by subtracting total above from total area. ^{6/} Estimated from Österreichisches Statistisches Handbuch.

Post-War Utilization of the Land.

During the war there was a slight decrease in the land under plow; but recovery has been rapid so that in 1923 plowed lands had increased about 1.1 percent above the pre-war average. Meadows and pastures have increased 0.6 per cent, while vineyards have decreased 0.5 per cent, and forests have increased 0.6 per cent. These differences in the way in which the land was utilized before and since the war are so slight that it is practicable to say that the major agricultural areas of Italy are approximately the same today as they were before the war. A slight shift has occurred in the utilization of plow lands. There has been a tendency toward an increase in annual forage and fodder plants accompanied by a decrease in cereal acreage.

Cereals.

Cereals are the prevailing national crop and account for about 48 per cent of the plowed land, including spaced lands, in Italy. In 1923 the area of plowed land was 35,982,000 acres. Of these 17,567,000 acres were planted with cereals. (See Table 5.)

A comparison of the percentage of area under cereals in Italy with that of other European countries is shown in Table 6.

Table 5. Area under Cereals ^{1/} in specified countries - 1923, expressed in percentages.

Country	Percentage of plow lands	Percentage of total area
	<u>Percent</u>	<u>Percent</u>
ITALY	48.8	22.9
France	48.9	20.6
Germany	54.5	23.3
Great Britain	45.3	11.3
Spain	48.3	15.3
Czecho-Slovakia	54.0	22.7

International Yearbook of Agricultural Statistics, 1923.

^{1/} Includes all cereals grown in each country. These data are not strictly comparable; for example, Italy and Spain include rice but not maslin; Germany includes maslin and spelt but not corn nor rice, etc.

The stress given to cereal crops is explained by the density of the population, more than 350 per square mile, and by the importance of rural as compared to urban population. The tendency is emphasized by the prevalence of small farm ownership and by the fact that farmers raise wheat primarily to meet their own food requirements. It is estimated that not less than two-fifths of the cereal crops raised in Italy are consumed on the farms on which they are grown.

Wheat: The Italian nation is a wheat-eating people, consuming this cereal on a large scale in the form of bread and macaroni products. No other bread cereals are so extensively used. Wheat is by far the most important cereal crop, and is one of the most important of all crops in Italy. Nevertheless, the last 20 years have seen a relative decline in wheat acreage, while between the years 1901 to 1921 the population within the present boundaries of Italy has increased by over 6,000,000 inhabitants, attended by an increased demand for this cereal. The great decline in wheat acreage has taken place largely in the South and in the Islands.

Comparing the period 1903-13 with 1919-23, the area under wheat fell from approximately 3,484,000 to 3,459,000 acres in the North, from 2,545,000 to 2,520,000 acres in Central Italy, from 3,435,000 to 3,361,000 acres in the South, and from 2,273,000 to 1,977,000 acres in the Islands.

The average yield rose from 21.7 to 22.3 bushels per acre in the North, and from 13.8 to 15.0 bushels per acre in Central Italy, but it fell from 12.8 to 11.2 bushels per acre in the South, and from 12.6 to 11.9 bushels per acre in the Islands.

The figures in Table 7 show in bushels the yield per acre of the wheat crop for a series of years in Italy, France, Germany, and Spain:

Table 7. Wheat: Yield per acre in certain European countries, average 1903-13 and 1921 to 1924.

Country	Present boundaries				
	Average 1903-13	1921	1922	1923	1924
	<u>Bus.</u>	<u>Bus.</u>	<u>Bus.</u>	<u>Bus.</u>	<u>Bus.</u>
Italy	15.6	16.3	14.1	19.5	15.1
France	19.7	24.3	18.6	20.2	20.6
Germany	32.6	30.3	21.2	23.1	24.6
Spain	13.7	14.0	12.2	15.0	11.7

These figures show that the average yield in the two southern countries, Italy and Spain, falls short of that in France, and far short of that in Germany, in both of which countries the climate is far better suited to wheat production than is that of Italy taken as a whole.

An agricultural economist in Italy has pointed out several significant facts in connection with the figures given in Table 7 as an index to agricultural practices: 1/

"The average yield, calculated for the whole kingdom, has little or no significance in view of the varying conditions of climate, soil and modes of cultivation. Wheat is grown in the plains, on hills and on mountains. In North Italy, it is grown under climatic conditions similar to those of Northern Europe. In South Italy the conditions are those of other southern European countries. In the valley of the Po intensive methods are applied to the cultivation of wheat; in the Apulian table-land, and in a few other flat areas of the south, extensive farming is the rule. In northern and central Italy intensive methods are more or less applied in the hill districts; in the South and the Islands extensive farming prevails. In the mountain districts, with few exceptions, wheat is grown under such unfavorable conditions that it has no commercial value and is only raised because the farmer can thus utilize his own labor for which there is no other demand..... This diversity of conditions is such that in comparing wheat yields with those of other countries it is not possible to form a correct opinion by taking the average for the whole country. Comparison with the average of 29.7 bushels per acre for Germany should be made with the average of 23.8 bushels per acre obtained in the Valley of the Po, where wheat is cultivated on an area larger than is under that crop in the United Kingdom and Belgium taken together; the average 20.8 bushel yield in the Apulian plains and hills with the average 18 bushels per acre of Hungary."

Since the war, the depreciation of the lira has made foreign wheat purchases particularly burdensome on the finances of the country, as any extensive remittance of funds abroad immediately reacted to the detriment of Italian rate of exchange. As a result, an active wheat growing campaign has been carried on, especially in 1920-21 and 1922, when wheat-growing was directly encouraged by the government, with a view to limiting so far as possible import requirements and again for the crop year 1924-25

1/ Valenti, Ghino. L'Italia Agricola dal 1861 al 1911.

the same cry has been raised. This agitation has received popular support, but agricultural economists have not ceased to emphasize the point that in Italy the area under wheat already exceeds the economic limit, and that further increase in production must come through improved methods of growing rather than increased area. However, this issue has overflowed economic bounds and is now in the domain of "political expediency" and "national security," and it will not be surprising to see Italy's wheat acreage temporarily increased, since the Government is lending its efforts in that direction. 1/

There is little to note in the changes of either acreage or total yield of the other cereal crops.

Rye: Rye is grown to some extent in North Italy (Piedmont and Lombardy). Most of the rye is consumed on the farms where it is grown.

Barley: Barley is grown mainly in Sicily, Sardinia and Apulia. It is cultivated on a rather larger area than rye, the pre-war average being 647,000 acres including the area under this crop in the Provinces which have been annexed since the war. It has since declined and stood at 571,000 acres in 1924.

Oats: Oats are grown on a larger area than either rye or barley. It is more especially a crop of Southern Italy, the largest area under oats being in Apulia, although there has been a considerable decline in the oat area in that province during recent years.

Corn: Corn comes next to wheat in importance as a cereal crop. In 1909-13 corn occupied 4,090,000 acres, including the corn acreage of the recently annexed provinces, falling to 3,830,000 acres in 1924.

The corn crop is utilized principally in three ways: (1) The better grades are consumed as food; (2) Inferior grades are utilized as stock feed, especially for fattening hogs. Corn for both of these purposes is practically all grown in Italy; and (3) A certain amount of corn is used for industrial purposes, like starch-making and distilling. The corn thus used is practically all imported. Table 8 shows the total yield of corn for the period 1911-21 and for the years 1922 and 1923.

1/ See page 83 for measures taken by the Italian Government in conducting the "Battaglia del Grano" - the battle of grain.

Table 3. Corn: Production in Italy, by districts,
1911 - 1923.

Districts	Average 1911-21	1922	1923
	<u>Bushels</u>	<u>Bushels</u>	<u>Bushels</u>
Piedmont	10,253,537	8,479,836	10,373,430
Liguria	265,406	125,977	125,977
Lombardy	24,749,856	24,616,721	27,541,753
Venetia	24,292,831	18,400,536	22,321,575
Emilia	8,866,000	7,916,876	7,660,985
Tuscany	4,380,926	3,066,756	3,900,090
Marches	3,630,074	2,775,434	2,736,066
Umbria	1,028,574	826,725	1,488,105
Latium	3,142,987	1,661,324	1,897,531
Abruzzi & Molise	3,838,113	1,779,427	2,153,422
Campania	7,084,067	3,377,762	3,547,044
Puglie	253,336	47,241	43,305
Basilicata	571,191	472,414	271,636
Calabria	1,419,330	1,110,174	1,362,128
Sicily	83,389	27,558	43,304
Sardinia	254,818	173,219	185,029
Total former Italy	94,162,545	74,857,980	85,731,382
Provinces annexed in 1919:			
Venezia Tridontina	1/ 669,254	596,811	929,081
Venezia Giulia	1/ 1,618,019	1,275,519	2,543,164
Total present Italy	96,449,818	76,650,310	89,203,627

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1/ One year only, - 1921.

The consumption of corn as a bread cereal is confined to the poorer agricultural classes of North Italy, and mainly to Venetia, Piedmont, and Lombardy and to a smaller extent to Emilia. In other parts of Italy such use is exceptional and confined to the poorest class of agricultural laborers.

The use of corn, especially of deteriorated quality, eaten without salt, was considered the cause of the alarming prevalence of pellagra among the poorer classes of agricultural workers. In 1879 there were 97,855 sufferers from this disease in Italy, the great majority of whom

were in the corn-eating regions of Lombardy and Venetia; in 1881 the number had risen to 104,067. In 1890, deaths from pellagra rose to 14.6 per 100,000 inhabitants and the number of insane from this cause was large.

Legislation was passed prohibiting the sale or distribution for consumption of deteriorated corn, providing municipal drying houses for drying it, and in 1894 these measures were supplemented by one for the free distribution of salt to indigent pellagra sufferers. This last measure is an indication of the fact that extreme poverty and malnutrition was the underlying cause of the disease. As a result of these measures and of the slow but steady rise in the standard of life of the Italian peasant, pellagra has steadily declined. At the Congress on Pellagra held in September 1922, figures were given showing that the number affected with pellagra had fallen from 33,869 in 1910 to 5,168 in 1921; insanity from this cause had declined from 457 in 1910 to 84 in 1921. The disease has disappeared in most provinces, sporadic cases being confined to the poorer districts of Venetia and Lombardy.

The following tables give the pre-war and post-war acreage and production of cereals, yield per acre, and production and acreage per 100 inhabitants:

Table 9. Cereals, potatoes and sugar beets: Acreage and production in Italy, average 1909-13.

Crop	Italy, old boundaries		Annexed territory		Italy, new boundaries	
	Acreage	Production	Acreage	Production	Acreage	Production
	1000	1000	1000	1000	1000	1000
	<u>Acres</u>	<u>Bushels</u>	<u>Acres</u>	<u>Bushels</u>	<u>Acres</u>	<u>Bushels</u>
Wheat	11,722	183,324	71	1,059	11,793	184,393
Rye	303	5,329	43	988	346	6,317
Total bread cereals	12,025	188,663	114	2,047	12,139	190,710
Barley	613	10,104	34	534	647	10,638
Oats	1,253	36,945	23	592	1,276	37,537
Corn	3,973	100,317	117	2,359	4,090	102,676
Total cereals (excluding rice)	17,864	336,029	288	5,532	18,152	341,561
Potatoes	710	60,806	49	6,708	759	67,514
		<u>1000 Lbs.</u>				<u>1000 Lbs.</u>
Rice (cleaned)	358	646,465	1/	1/	358	646,465
		<u>Sh. Tons</u>		<u>Sh. Tons</u>		<u>Sh. Tons</u>
Sugar beets	130	1,982	1/	1/	130	1,983

1/ Less than 500

Notize Periodiche de Statistica Agraria - former boundaries.

Statistisches Jahrbuch des K. K. Ackerbauministeriums - Austria - annexed territory.

Table 10. Cereals, Potatoes and Sugar Beets: Area seeded in Italy,
Average 1909-13 and 1921-24.

Crop	Present boundaries											
	Average 1909-13			1921			1922			1923		
	1000 Acres	Per Cent	1000 Acres	Per Cent	1000 Acres	Per Cent	1000 Acres	Per Cent	1000 Acres	Per Cent	1000 Acres	Per Cent
Wheat	11,795	65.0	11,577	67.0	11,489	65.0	11,554	66.2	11,280	65.7		
Rye	346	1.9	327	1.8	320	1.8	315	1.8	309	1.8		
Total bread cereals	12,139	66.9	12,204	68.8	11,809	67.8	11,869	68.6	11,589	67.5		
Barley	647	3.6	585	3.3	576	3.3	569	3.3	571	3.3		
Oats	1,276	7.0	1,225	6.9	1,214	7.0	1,223	7.0	1,181	6.9		
Corn	4,090	22.5	3,717	21.0	3,811	21.9	3,790	21.7	3,830	22.3		
Total cereals (including rice)	18,152	100.0	17,731	100.0	17,410	100.0	17,451	100.0	17,171	100.0		
Decrease below pre-war average			421	2.3	742	4.1	701	3.9	981	5.4		
Potatoes	759											
Rice (cleaned)	353		763		861		860		855			
Sugar beets	130		286		294		303		340			
			159		203		223		297			

1909-13 and 1921 to 1923 - Notizie Periodiche de Statistica Agraria.

1924 and sugar beets only for 1923 - International Crop Report and Agricultural Statistics.

1909-13 annexed territory estimated from Statistisches Jahrbuch des K. K. Ackerbauministeriums-Austria.
1921 annexed territory estimated.

Table 11. Cereals, potatoes and sugar beets: Production in Italy, average 1909-13 and 1921 to 1924.

Crop	Present Boundaries				
	Average 1909-13	1921	1922	1923	1924
	1000 <u>Bushels</u>	1000 <u>Bushels</u>	1000 <u>Bushels</u>	1000 <u>Bushels</u>	1000 <u>Bushels</u>
Wheat	184,393	194,071	161,641	224,836	170,144
Rye	6,317	6,519	5,563	6,484	6,114
Total bread cereals	190,710	200,590	167,204	231,320	176,258
Barley	10,638	11,119	8,253	10,499	8,685
Oats	37,537	38,415	30,465	39,827	33,311
Corn	102,676	92,325	76,830	89,204	101,447
Total cereals (excluding rice)	341,561	342,449	282,752	370,850	319,701
Potatoes	67,514	58,359	53,689	65,984	73,488
Rice (cleaned)	<u>1000 Lbs.</u> 646,465	<u>1000 Lbs.</u> 641,375	<u>1000 Lbs.</u> 631,985	<u>1000 Lbs.</u> 708,874	<u>1000 Lbs.</u> 804,135
Sugar beets	<u>1000 sh.</u> <u>tons</u> 1,983	<u>1000 sh.</u> <u>tons</u> 1,920	<u>1000 sh.</u> <u>tons</u> 2,486	<u>1000 sh.</u> <u>tons</u> 2,976	<u>1000 sh.</u> <u>tons</u> 3,968

1909-13 and 1921 to 1923 - Notize Periodiche de Statistica Agraria.

1924 and sugar beets only for 1923 - International Crop Report and Agricultural Statistics.

1909-13 Annexed territory estimated from Statistisches Jahrbuch des K. K. Ackerbauministeriums - Austria.

1921 Annexed territory - estimated.

Table 12. Cereals, potatoes and sugar beets: Crop yields per acre in Italy 1909-13 and 1921 to 1924.

Crop	Present boundaries				
	Average 1909-13	1921	1922	1923	1924
	<u>Bushels</u>	<u>Bushels</u>	<u>Bushels</u>	<u>Bushels</u>	<u>Bushels</u>
Wheat	15.6	16.3	14.1	19.5	15.1
Rye	18.3	19.9	17.4	20.6	19.8
Total bread cereals	15.7	16.4	14.2	19.5	15.2
Barley	16.4	19.0	14.3	18.5	15.2
Oats	29.4	31.4	25.1	32.6	28.2
Corn	25.1	24.8	20.2	23.5	26.5
Total cereals (excluding rice)	18.8	19.3	16.2	21.3	18.6
Potatoes	89.0	76.5	62.4	76.7	85.0
	<u>Pounds</u>	<u>Pounds</u>	<u>Pounds</u>	<u>Pounds</u>	<u>Pounds</u>
Rice (cleaned)	1805.8	2242.6	2149.6	2339.5	2365.1
	<u>Sh. Tons</u>	<u>Sh. Tons</u>	<u>Sh. Tons</u>	<u>Sh. Tons</u>	<u>Sh. Tons</u>
Sugar beets	15.3	12.1	12.2	13.3	13.4

Table 13. Cereals, potatoes and sugar beets: Area and production per 100 inhabitants in Italy. Average 1909-13 and 1921 to 1924.

Crop	Present boundaries											
	Average 1909-13			1921			1922			1923		
	Acres	Bushels	Acres	Acres	Bushels	Acres	Acres	Bushels	Acres	Acres	Bushels	1924 Bushels
Wheat	32.7	510.7	30.6	29.0	499.7	28.7	28.7	558.2	27.5	27.5	415.0	
Rye	1.0	17.5	.8	.3	16.8	.3	14.1	16.1	.8	.8	14.9	
Total bread cereals	33.7	528.2	31.4	29.3	516.5	29.0	29.5	574.3	28.3	28.3	429.9	
Barley	1.8	29.5	1.5	1.5	28.6	1.4	1.4	25.0	1.4	1.4	21.2	
Oats	3.5	104.0	3.2	3.1	98.9	3.0	3.0	98.9	2.9	2.9	81.2	
Corn	11.3	284.4	9.6	9.6	237.7	9.4	9.4	221.5	9.3	9.3	247.4	
Total cereals (excluding rice)	50.3	946.1	45.7	44.0	881.7	43.3	43.3	920.7	41.9	41.9	779.7	
Potatoes	2.1	187.0	2.0	2.2	150.3	2.1	2.1	163.8	2.1	2.1	179.2	
		Lbs.			Lbs.			Lbs.			Lbs.	
Rice (Cleaned)	1.0	1790.7	.7	.7	1651.5	.8	.8	1759.9	.8	.8	1961.3	
		Sh.Ton			Sh.Ton			Sh.Ton			Sh.Ton	
Sugar beets	.4	5.5	.4	.5	5.0	.6	.6	7.4	.7	.7	9.7	

Population:

1911 36,101,187 (estimated)

1921 38,835,941

1922 39,557,294

1923 40,273,547

1924 41,000,000

Estimated by adding the average of the increase between 1921 and 1924.

Rice: Rice is the staple cereal crop of which Italy regularly exports more than is imported. Before the war 353,000 acres were under rice, which is grown exclusively in North Italy, chiefly in the provinces of Novara (161,000 acres), Pavia (84,000 acres) and Milan (37,000 acres). The area of the rice crop is decreasing. In 1870-74 it covered some 573,000 acres with a yield of 540,127 short tons of rough rice; ^{1/} in 1890 the area had fallen to 477,000 acres with a yield of 694,449 short tons of rough rice; the 1909-13 average area was 358,000 acres and the yield 523,637 short tons of rough rice. Since the war the area has been still further reduced (see Tables 10 and 11), but improved methods of cultivation have increased the yield per acre (see Table 12). Italy is the one European country in which rice is grown on any considerable scale. The yield per acre is inferior to that obtained in Spain, the pre-war average being 1.6 short tons of cleaned rice per acre for Spain, and 1.5 short tons of rough or .9 short ton of cleaned rice for Italy, as compared to an average of .5 short ton of cleaned rice per acre in the United States and 1.1 short tons of cleaned rice per acre in Japan.

Possibility of Increasing Italy's Cereal Supply.

Since the war the area under cereals, including rice, in the territory including the annexed provinces, has declined approximately 1,000,000 acres. This area might again be brought under cereal crops. But when the division of agricultural lands in Italy is examined it will be seen that prudent agricultural policy tends to reduce the area under cereals rather than to increase it. At present cereals invade high and steep mountain slopes which should be reserved for woods and grazing lands and, wherever temperature conditions admit, olive and nut trees. Moreover, certain authorities maintain that Italian agriculture suffers from lack of due proportion between cereals and forage crops. These latter are unduly restricted and as a consequence there is an insufficiency of livestock.

Complaints are frequent about the low yield per acre of Italian grain crops, but comparison with other countries in which wheat is raised on an area of some 5 or more million acres shows that Italy holds a prominent place; France 19.8 bushels per acre; Italy 15.1; Canada 15.2; Roumania 14.4; United States 13.4; Spain 13.4; Argentina 11.9; Australia 11.7; India 11.7; Russia 7.0.

Nevertheless, Italy's yield is low when compared to France; this is largely due to the fact that grain is constantly grown in association with other crops such as vines, olives, mulberries and fruit trees; but again, such associated crops secure larger total returns to the farmer than he could obtain from wheat alone.

^{1/} 162 lbs. of rough rice = 100 lbs. of cleaned rice.

With few exceptions, geological and climatic conditions in Italy are unfavorable to cereal crops. Still, there is no doubt that the proper application of scientific practice could improve the situation. It is possible, from a technical point of view, to increase markedly the average yield.

The goal to be attained is not that of extending the area under cereals but of intensifying the yield on lands suited to such crops. In 1924 there were some 11,280,000 acres under wheat with a total production of some 170 million bushels. Authorities of high standing advocate a reduction in the area to 8,649,000 acres, and at the same time an increase of total yield through better cultural practices.

This program of reduced wheat acreage, more forage and more livestock, is gradually gaining recognition and the efforts of scientific and educational agencies are now directed, less towards extending the area under cereals than to intensifying the yield by the use of improved methods.

Table 14 gives the average production, importation, exportation and disappearance of cereals in Italy for the pre-war period 1909-13 in comparison with that of the years 1921 to 1924.

Table 14. Cereals and potatoes: Production, importation, exportation and disappearance in Italy, average 1909-13 and 1921 to 1924.

Present boundaries 1/									
Average 1909 - 13					1921				
Production	Imports2/	Exports2/	Disappear- ance		Production	Imports2/	Exports2/	Disappear- ance	
1000 Bus.	1000 Bus.	1000 Bus.	1000 Bus.	1000 Bus.	1000 Bus.	1000 Bus.	1000 Bus.	1000 Bus.	1000 Bus.
Wheat	184,393	56,431	3,637	237,187	194,071	98,601	465	292,207	
Rye	6,317	654	2	6,969	6,519	10	3/	5,529	
Barley	10,538	824	20	11,442	11,119	1,755	39	12,835	
Oats	37,537	8,158	65	45,630	38,415	4,594	12	42,997	
Corn	102,676	14,829	265	117,240	92,325	13,753	20	106,058	
Potatoes	67,514	222	3,980	63,756	58,359	17	5,404	52,972	
1922									
Wheat	161,641	112,003	1,776	271,868	224,836	77,552	7,680	294,708	
Rye	5,563	227	3	5,787	6,484	230	237	5,477	
Barley	8,253	1,777	47	9,983	10,499	1,375	68	11,806	
Oats	30,465	12,243	6	42,702	39,827	6,240	22	46,045	
Corn	76,830	20,584	29	97,385	89,204	10,335	636	98,903	
Potatoes	53,689	21	3,353	50,357	65,984	30	8,084	57,930	
1924									
Wheat	170,144	102,126	5,867	266,403					
Rye	6,114	24	357	5,781					
Barley	8,685	1,191	634	9,242					
Oats	33,311	8,731	128	41,914					
Corn	101,447	6,446	708	107,185					
Potatoes	73,488	65	7,453	66,100					

Production: 1909-13 and 1921 to 1923. Notizie Periodiche de Statistica Agraria, Italy. 1924 International Crop Report and Agricultural Statistics. Annexed territory 1909-13 estimated from Statistisches Jahrbuch des K.K. Ackerbauministeriums, Austria. 1921 estimated.

Imports and exports: Statistica del Commercio Speciale de Importazione e di Esportazione, Italy.

1/ Imports and exports are for former Italy.

2/ Years beginning July 1.

3/ Less than 500.

Fruits and Vegetables.

Italy is well suited by climate and natural conditions to the development of fruit growing and market gardening, but little has been done towards a complete commercial realization in these directions with the exception of wine-grapes and citrus fruit growing. Progress has been retarded largely by the tendency in Italy to make every farm self-sufficing. As a result, cereals have been grown regardless of economic returns obtainable so that crops of greater commercial value but not required by the farmer for his own consumption have been neglected. Only lately has effective emphasis been placed upon the desirability of a systematic development of the fruit and vegetable crops.

An Italian authority^{1/} describes the fruit industry in Italy in the following words: "With few and notable exceptions, fruit growing in Italy is still primitive, disorderly, careless, and lacking any industrial basis." This condition is attributed to lack of opportunities for technical training and lack of assistance from experimental stations in the selection of the varieties best suited to market requirements.

It is impossible to obtain accurate data concerning the extent of the areas devoted to the growing of fruits. This lack of information is explained by the absence of specialized commercial orchards and by the practice of so planting the orchards that other crops may be grown on the land at the same time.

Citrus Fruits: The citrus fruit crop is of great economic importance in Sicily and of considerable importance in Calabria and Campania. In 1917 the estimated production was 892,863 short tons with a money value on the farm estimated at around \$14,439,180. The citrus products in these estimates are classified as shown in Table 15.

Table 15. Citrus fruits: Production and Farm value in Italy, 1917.

Fruit	Production	Farm Value ^{2/}	
		Total	Per Ton
	<u>Short Tons</u>	<u>Dollars</u>	<u>Dollars</u>
Lemons	485,012	8,783,280	18
Oranges	330,690	3,992,400	12
Tangerines	38,581	838,404	22
Bergamots	22,046	465,780	21
Limes	1,653	59,836	36
Chinotti ^{3/}	413	19,962	48
Misc. citrus	14,468	279,468	19
Total	892,863	14,439,180	16

Briganti - Frutta e Ortaglie. Produzione, Commercio, Regime Doganale.

^{2/}Average value of a lira in 1917 was 13.308 cents.

^{3/}Small oranges for pickling

^{1/} Briganti - Frutta e Ortaglie, Produzione, Commercio, Regime Doganale - Roma, 1917.

The total citrus area is estimated at 267,856 acres, but on 149,990 acres citrus fruits are grown in association with other crops.

In 1917, citrus production consisted of about 54 per cent lemons, 37 per cent oranges, and 9 per cent other citrus fruits.

During the war the citrus orchards suffered from neglect. After the war the industry went through an economic crisis due largely to the impoverishment of Northwestern European and Russian markets.

The crop is also valued for its by-products - oils, citrus juice (crude and preserved), citrate of lime and citric acid.

Olives: Olives are a characteristic Italian crop, grown chiefly in the South, but also on a commercial scale in Tuscany, Liguria and Umbria. They are grown both alone and in association with other crops. The area under olives alone has fallen from an average of 1,455,000 acres in 1909-13, to 1,430,000 acres in 1923. At the same time the area on which olives are grown in association with other crops has risen from 4,246,000 acres for the 1909-13 period, to 4,278,000 acres in 1923.

The quantity of olives and oil produced differs greatly from year to year and the olive crop has suffered severely in the last 20 years from insect pests and diseases, more especially from the olive-fly.

It is believed that consumption on the home market is susceptible of considerable development and that the cultivation of the olive can be extended with advantage to a portion of the area now under vines.

The improvement of cultivation and the control of diseases and insect pests of the olive tree and its fruit is hindered by the fact that olive cultivation is generally carried on by small holders. The tendency is to counteract this drawback by making collective action of olive growers compulsory.

Lack of uniformity prevails in refining the oil because the work is done on a small scale by individual producers. Cooperative refineries would probably be of advantage, but it is difficult to get them started, especially in the South. Much has been done to improve the situation by opening large commercial oil mills and refineries.

The estimated production of olive oil is found in Table 16.

There is a movement on foot for securing severe legislation for the suppression of fraud and adulteration in the oil trade.

Table 16. Olives and Grapes: Acreage and Production in Italy, Average 1909-13 and 1921 to 1924.

ITEM	Unit for Produc- tion.	P r e s e n t B o u n d a r i e s						1 9 2 4				
		A v e r a g e 1 9 0 9 - 1 9 1 3		1 9 2 1		1 9 2 2		1 9 2 3		1 9 2 4		
		A c r e a g e		P r o d u c t i o n		A c r e a g e		P r o d u c t i o n		A c r e a g e		
		<u>A c r e s</u>		<u>A c r e s</u>		<u>A c r e s</u>		<u>A c r e s</u>		<u>A c r e s</u>		
Grapes	S. tons	11,106,860	1/	7,790,750	10,651,470	5,724,585	10,559,819	6,210,353	10,553,583	9,242,565	10551600	7,792159
	1,000										2/	1,135000
Wine	Gals.			1,251,139		859,837		940,049		1,425,144		
Olives	S. tons	5,701,585		1,186,787	5,704,353	1,032,083	5,703,504	1,739,981	5,703,257	1,253,827	5643500	
Olive oil	S. tons			181,513		161,672		278,964		195,948		

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Notizie Periodiche di Statistica Agraria.

Annexed territory: - Prewar - estimated from Statistisches Jahrbuch des K. K. Ackerbauministeriums - Austria.
1921 - Where not given estimated by taking the average of the percents of increase
in 1 9 2 2 and 1 9 2 3.

1/ Three-year average - 1911-1913.

2/ From International Institute.

Grapes and Wine: Grapes are perhaps the most characteristic of Italian crops. Vineyards are found in every part of the peninsula. Vines are grown in special vineyards in Piedmont and in the southern provinces. They are grown in association with tree crops and with cereal crops throughout Italy. When the phylloxera devastated the vineyards of France in the eighties, large areas in Apulia were planted to vines, and that province is now one of the largest producers of wine in Italy.

The area under vines is excessive in relation to the requirements of the home market, and an important percentage of the yield in wine is exported. The struggle to secure markets for Italian wines has been a very keen one. In the first post-war years there was a great falling off in these exports, which continued until 1923. In 1924 there has, however, been a marked improvement. During that year 66,136,000 gallons of wine in barrels were exported, as compared to 20,653,000 gallons in 1923.

France, Italy, and Spain are the three leading countries of the world in grape production. The areas planted to grapes in these countries are given in Table 17.

Table 17. Grapes: Acreage ^{1/} in Italy, Spain and France, Average 1909-13 and 1922 to 1924.

Country	Ay. 1909-13 Acres	1922 Acres	1923 Acres	1924 Acres
Italy: under grapes only	2,402,800	1,991,132	2,002,493) 10,551,000
grown with other crops	8,579,806	8,568,687	8,556,085	
Spain:	3,157,723	3,312,840	3,315,306	---
France:	4,165,296	3,971,021	3,928,939	3,605,951

^{1/} For acreage in Italy, present boundaries, 1909-13, see Table 16.

Because of the practice of growing other crops with grapes on the same land at the same time, area is of little value as an index for comparing the importance of the industry in different countries. Yield in wine is a more accurate basis for comparison. The production of wine in the above countries for a series of years is shown in Table 18.

Table 18. Wine Production in Spain, France and Italy
Average 1909-13 and 1921 to 1924.

Year	Spain	France	Italy
	<u>Gallons</u>	<u>Gallons</u>	<u>Gallons</u>
Av. 1909-13	393,174,487	1,326,820,982	1,215,620,522
1921	507,320,072	1,265,462,295	842,913,636
1922	678,173,737	2,028,330,281	940,048,945
1923	583,241,394	1,582,674,455	1,425,144,316
1924	573,338,718	1,724,998,166	1,135,931,000

International year book of Agricultural Statistics, also the International Crop Report and Agricultural Statistics - International Institute of Agriculture.

Note: For wine production in Italy, present boundaries 1909-13 and 1921, see Table 16.

The future will probably see a reduction in the wine grape area as too much wine is now produced in Italy. On the one hand, the need is felt for standardizing and improving qualities of wine, on the other, for promoting the uses of grapes for purposes other than wine.

An effort is being made, more especially in south Italy, to grow more table grapes, both for home consumption and for export. In 1923, 27,417,728 lbs. were exported; and 85,451,178 lbs. in 1924. The German market has become once more a considerable consumer. The production of table grapes is estimated at 110,230,000 lbs. per year.

Production of raisins is still rudimentary and insufficient even for the requirements of the home market. The only production of any importance is that of Pantelleria and Lipari, two islands off Sicily, where some 11,023,000 lbs. of raisins are produced each year. Italy could profitably produce raisins on a very much larger scale than is practiced at the present time. One may well question why in replanting vineyards destroyed by the phylloxera more emphasis was not placed upon selecting table and raisin varieties.

The area in specialized vineyards where vines alone are grown amounted to 2,002,000 acres in 1923. This is a reduction of over 355,000 acres since 1913 including annexed territory (See Table 5). In addition, around 8,557,000 acres are grown in association with other crops.

The figures in table 19 show the production of grapes and wine for the years 1921 to 1924 compared with the prewar average 1909-13.

Table 19. Grapes and wine - Production in Italy, average, 1909 - 1913 and 1921 to 1924.

Years.	Grapes <u>1/</u>	Wine
	<u>Short tons</u>	<u>1,000 Gallons</u>
Av. 1909-1913	7,822,582	1,215,621
1921	5,518,444	842,914
1922	6,210,358	940,049
1923	9,242,565	1,425,144
1924	7,792,159	1,135,000

International Yearbook of Agricultural Statistics except 1922 and 1923 - which are from *Notizie Periodiche di Statistica Agraria*.

Note: For Italy, present boundaries - 1909-13 and 1921, see table 16.

1/ All varieties.

In addition to citrus fruits, olives and grapes, Italy produces other fruits and nuts in important quantities. Table 20 gives the production for a series of years of the most important of these products.

Table 20. - Fruits: Production in Italy 1913 and 1920 to 1923 ^{1/}

Fruits ^{2/}	1913	1920	1921	1922	1923
	<u>S. tons</u>	<u>S. tons</u>	<u>S. tons</u>	<u>S. tons</u>	<u>S. tons</u>
Apples, Pears) quinces,) pomegranates)	296,849	252,316	197,422	305,337	333,556
Pulp fruits	125,001	151,397	135,914	200,398	192,021
Almonds, Walnuts, etc.	90,830	197,312	146,275	254,080	168,652
Dried Figs and Prunes	70,763	118,607	83,224	77,051	70,878
Chestnuts	636,137	686,072	415,898	519,514	563,386

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^{1/} 1913, 1920 and 1921 old boundaries, 1922 and 1923 include annexed provinces

^{2/} Citrus fruits, olives and grapes included in other tables.

Vegetables: Table 21 gives the area and production of vegetables in 1923. Approximately 3,083,685 acres, excluding area sown to small grain leguminous crops were given over to this class of products. It is estimated that of this area some 198,000 acres were devoted to market gardening as contrasted to field vegetable crops.

Table 21. Vegetables (Including leguminous plants): Area and production in Italy

Average 1912-1913 and 1921 to 1924.

C R O P	P r e s e n t						B o u n d a r i e s					
	A v e r a g e		1 9 2 1		1 9 2 2		1 9 2 3		1 9 2 4			
	A c r e a g e	P r o d u c - t i o n	A c r e a g e	P r o d u c - t i o n	A c r e a g e	P r o d u c - t i o n	A c r e a g e	P r o d u c - t i o n	A c r e a g e	P r o d u c - t i o n	A c r e a g e	P r o d u c - t i o n
	A c r e s	S. t o n s	A c r e s	S. t o n s	A c r e s	S. t o n s	A c r e s	S. t o n s	A c r e s	S. t o n s	A c r e s	S. t o n s
Leguminous plants 1/	2,805,513	115,067	2/	97,601	2/	80,247	2/	90,058	2/	104,057	2/	123,523
Pot herbs	278,476	897,072	267,856	676,702	267,609	746,693	267,609	681,332	2/	269,843	2/	4,299
Haricot beans	1,398,964	180,111	1,288,812	126,875	1,344,718	91,932	1,330,634	82,342	2/	123,523	2/	4,299
Tomatoes	72,895	677,914	77,589	446,652	83,215	449,628	93,840	593,919	2/	104,057	2/	4,299
Onions and garlic	15,444	85,428	23,722	99,758	25,698	91,491	25,575	91,932	2/	104,057	2/	4,299
Melons & cucumbers	24,710	191,800	36,571	244,600	38,300	215,830	41,019	229,940	2/	104,057	2/	4,299
Fresh pod vegetables	40,772	105,821	73,084	134,260	84,261	128,859	86,979	113,757	2/	104,057	2/	4,299
Asparagus	3,830	5,512	2,718	3,858	2,718	4,079	2,965	4,079	2/	104,057	2/	4,299
Artichokes	17,544	79,917	17,050	71,650	18,038	67,351	17,544	71,098	2/	104,057	2/	4,299
Chards, fennels, celery,	5,930	37,478	7,413	56,328	7,907	59,745	7,660	58,753	2/	104,057	2/	4,299
Cabbages and cauliflower	36,200	302,030	41,513	289,133	55,598	371,144	54,609	378,640	2/	104,057	2/	4,299
Horse beans	1,487,794	560,742	1,102,701	430,448	1,104,043	287,370	1,150,251	325,730	2/	104,057	2/	4,299
T o t a l s	6,183,072	3,238,892	2,944,029 2/3	2,677,865	3,037,105 2/3	2,594,374	3,083,685 2/3	2,721,580	2/	104,057	2/	4,299

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1912-13 Annexed territory estimated from Statistisches Jahrbuch des K. K. Ackerbauminsteriums. Austria.

1921 Annexed territory, where not given, estimated by taking the average of the percents of increase in 1922 and 1923.

1/ Includes chick peas, acerchie, lentils, lupins, peas, and vetch.

2/ Not available.

3/ Does not include small grain legumes.

The mild winter climate of Southern Italy makes this portion of the country particularly well adapted to the cultivation of early vegetables and during the past fifteen years considerable development of these crops has taken place. Side by side with the growth of market gardening an important industry for conserving and canning vegetables has grown up, especially for making tomato paste. Market gardening is practised extensively in the neighborhood of Milan, Venice, Florence, Naples, Bari and Palermo.

Potatoes: The importance of potatoes in the agriculture of Italy has increased much of late years. Prior to 1894 the area of this crop did not exceed 494,200 acres. The average area for the territory including the recently annexed provinces for the five pre-war years 1909-13 was 759,000 acres; while the area for 1924 for the same territory is estimated at 865,000 acres. (See table 10).

Potatoes are grown mainly in the mountainous regions of Piedmont, Liguria, Tuscany, Campania, Calabria and more especially in the Abruzzi, where this crop is of considerable economic importance.

Italian agriculture does not look for marked progress in the development of staple cereal crops, but in the development of her fruit and vegetable production. It seems probable that she will always and increasingly be a large importer of wheat, meat, cotton, wool and coffee. To pay for these, in part at least, the tendency is to develop the production and export of fresh, canned, dried and preserved vegetables and fruits. In this direction an important beginning was made in the ten years preceding the war, but it was only a beginning. The figures for 1924 show considerable progress toward recovery of the pre-war position. Authorities are agreed that further progress lies in this direction.

Industrial Plants.

Hemp: Although not so important as silk, from the standpoint of the textile industry, hemp is one of the few raw textile materials which Italy exports. Except for Russia, Italy is the largest grower of hemp in Europe. The average area under this crop within the present boundaries of Italy in the pre-war period 1909-13 was 200,415 acres with an average fibre yield of 92,168 short tons. In 1921, there was a crisis of overproduction and prices fell heavily leading to a notable reduction in the area. In 1923, there was some revival though the figure is still considerably below the five-year pre-war average. (See Table 22).

Table 22. Industrial plants: - Acreage and Production in Italy, Average 1909-13 and 1921 to 1924.

I T E M	P r e s e n t b o u n d a r i e s							
	Average		1 9 2 1		1 9 2 2		1 9 2 3	
	1 9 0 9 - 1 3							1 9 2 4
	Acreage	Production	Acreage	Production	Acreage	Production	Acreage	Production
	<u>Acres</u>	<u>S. tons</u>	<u>Acres</u>	<u>S. tons</u>	<u>Acres</u>	<u>S. tons</u>	<u>Acres</u>	<u>S. tons</u>
Hemp (fiber)	200,415	92,168	210,045	91,991	131,951	55,555	167,904	66,469
Flax (fiber)	23,274	3,338	20,561	2,965	19,521	2,491	19,966	2,646
Cocoons		<u>2/</u> 44,978		35,494		35,935		46,936
Mulberry leaves		<u>2/</u> 1,122,185		1,292,998		1,353,183		1,477,523
								2,270
								54,476
								1,786,387

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Annexed territory: - Pre-war estimated from Statistisches Jahrbuch des K. K. Ackerbauministeriums - Austria.
1921 - Where not given - estimated by taking the average of the percents of increase in 1922 and 1923.

1/ From International Institute.

2/ New boundaries not available.

The hemp area in 1924 was 103 per cent of the 1923 area, and 102 per cent of the 1921-23 average.

The output of fiber within the present boundaries of Italy has varied from an average of 92,168 short tons for the five-year period preceding the war to a high point over 100,000 short tons in 1920 down to a low point of 55,556 short tons in 1922. In 1924 the production was 82,675 short tons. For 1924 the production was 124 per cent of that for 1923, and 116 per cent of the average 1921-23.

Hemp is grown mainly in the provinces of Ferrara and Bologna (North Italy) which account for three-fifths of the crop, with minor centers in the province of Caserta (South Italy) and the region about Naples.

The quality of Italian hemp is highly appreciated, owing especially to the excellent manner in which it is handled during the extraction of the fiber by the highly skilled rural labor trained in this task. Hemp lands in 1917 rented in the North of Italy at 8 to 19 dollars.1/

There is a considerable and steadily developing industry in the manufacture of hempen yarn, textiles and rope. This industry relies on home-grown raw materials.

Flax: Cultivation of flax for fiber is steadily decreasing in Italy. Fifty years ago some 74,130 acres were planted to flax in the irrigated plains of Lombardy alone. During 1909-13 the average total area under flax, including Southern Italy, had fallen to 21,942 acres. Since then the tendency has been downward, as is shown by the figures in Table 22 although the post-war figures include areas in the annexed territory.

This decline is accounted for by the fall in price of flax owing to the competition of Russian flax which had come on the market in great quantities in the years preceding the war.

Tobacco: The area devoted to tobacco is limited; (91,427 acres in 1924.) But the important point is that the area and production is nearly five times as great now as it was before the war.

The production, manufacture and sale of tobacco in Italy is a Government monopoly and tobacco can be planted only with the consent and under the supervision and control of the Ministry of Finance. All tobacco,

1/ Average value of a lira in 1917 was 13.306 cents.

except that grown for export, must be sold to the tobacco monopoly at fixed prices. As an encouragement to tobacco planters, the Government contributes from two-tenths to eight-tenths of the cost of erecting or adapting buildings for drying and curing leaf tobacco. It pays, for the first year, a bounty varying from 200 to 300 per cent above the price fixed for the tobacco by the Ministry of Finance on the basis of the appraisement made by experts. It grants a reward for increased production at the rate of 25 per cent of the fixed price. For the first 20 ares- 1/ planted to tobacco it makes each planter a grant of 20 lire and provides other forms of encouragement for the growing of tobacco. 2/

The two varieties of tobacco generally grown in Italy are "Kentucky", with an average yield of 2,230 lbs. per acre, and "Levantine", with an average yield of 714 to 892 lbs. per acre. The first is used for pipe tobacco and as fillers for cigars, the second for cigarettes. The increase in area under these two varieties in recent years is shown by Table 23.

Table 23. Area of Kentucky and Levantine Tobacco

In Italy 1917-1923.

	<u>Kentucky</u>	<u>Levantine</u>	<u>Other Varieties</u>
	<u>Acres</u>	<u>Acres</u>	<u>Acres</u>
1917	4,539	3,945	
1918	7,901	7,704	
1919	7,144	10,031	
1920	8,022	19,081	
1921	12,489	37,615	
1923	29,154	38,392	8,475

Per l'aumento della produzione del tabacco. "Problemi Italiani".
1st. June 1923.

1/ An are = .025 of an acre.

2/ Ministry of Finance - Istruzioni per l'applicazione
del D.L. No. 1660 del 17 ottobre 1917. Recenti
provvedimenti a favore delle coltivazioni indigeni del
tabacco.

Thus in 1923 the area under tobacco for internal consumption had risen to 75,576 acres to which must be added 408 acres under Levantine varieties for export, a total of 75,984 acres. In 1924, the total area rose to 91,427 acres of which 12,355 acres were devoted to the growing of export varieties.

The average annual production (1909-13) within the former boundaries of the Kingdom was 22,200,000 pounds; while an average of 764,000 pounds was produced in the territories annexed to Italy after the war; bringing the total pre-war average up to 22,964,000 pounds. In 1923 production of tobacco had increased to 69,004,000 pounds; while production in 1924 increased to 91,100,000 pounds.

Home production now entirely meets the requirements of the State Tobacco Monopoly for pipe tobacco, and 65 per cent of the requirements for cigarettes. In 1921, the Italian crop supplied only 21 per cent of the required quantity. The State Monopoly cannot use now a larger percentage of Italian tobacco for its cigarette requirements, as it has to be blended with other varieties not yet grown in Italy. Consequently attention is being turned to exportation. The Italian tobacco growers are very anxious to develop their output and believe they can compete favorably in foreign markets. The Italian State Tobacco Monopoly favors production for export, but with the understanding that it cannot be held responsible for taking over the surplus crop should export opportunities not suffice.

In the case of the finer qualities of tobacco for cigar wrappers, Italy is still dependent on imports.

In 1923 Italy exported 869,055 lbs. of leaf tobacco, and 1,647,455 lbs. of manufactured tobacco; the respective figures for 1924 were 2,531,000 and 2,097,000 lbs.

The area under tobacco grown for the Monopoly has extended rapidly and continuously, but the area under tobacco for exportation has increased at a still more rapid rate. It rose from 1,441 acres in 1905 to 3,744 acres in 1923 and to 12,355 acres in 1924. 1/

The prevailing opinion now is that the cultivation of the Kentucky varieties should be extended rather than that of the Levantine. The slowness hitherto noted in developing the cultivation of the Kentucky as compared to the Levantine varieties is due to the greater cost and trouble required for drying and curing the former. The tendency is for the Monopoly to purchase the green leaf from the planter and have it treated in special plants connected with the government factories. The supervision and development of tobacco cultivation is entrusted to the experiment station at Scafati, near Naples.

1/ Le nostre Piante Industriali - V. Peglion, Bologna.

The varieties and localities suited to tobacco growing in Italy ^{1/} are: (1) North American Dark varieties are grown generally throughout the country. (2) "Bright" varieties for cigarettes in Southern Italy and the Islands; (3) fine and light varieties similar to those of Central Europe in Northern and Central Italy; (4) tropical varieties suited to the manufacture of aromatic and scented tobaccos can be grown as a specialized crop of Southern Italy and the Islands; and (5) Eastern varieties of tobacco can be grown as a specialized crop in Apulia and the Islands.

Sugar Beets: Sugar beets form a comparatively new crop for Italy. Its introduction has resulted in the building up of a sugar refining industry of considerable importance and is converting Italy from a sugar-importing to a potential sugar-exporting country. Sugar beets are grown in North Italy, especially in Venetia and Emilia.

Sugar beet acreage has increased from 130,000 acres to 297,000 acres within the present boundaries of Italy during the past ten years, and production has increased during the same period from 1,983,000 short tons to 3,968,000 short tons. (See Tables 10 and 11). Italy is a country of low sugar consumption. In 1912-13 the annual consumption per capita was 11.7 lbs. In 1922-23 it had risen to 17.0 lbs. Compare these figures with the annual per capita consumption of over 100 pounds in the United States. In addition to its desirable effects in bringing about increased consumption, greater sugar production would make it possible to develop to a greater extent canning and preserving phases of the fruit industry.

The production of raw sugar has been as follows: ^{2/}

<u>Year</u>	<u>Short tons</u>
Avg. 1909-1913	203,675
1919-1920	184,929
1920-1921	137,117
1921-1922	227,510
1922-1923	297,929
1923-1924	334,111

^{1/} Le nostre Piante Industriali - V. Peglion, Bologna.

^{2/} International Year-book Agricultural Statistics, 1923.

Silk: Italy is the largest silk producer in Europe and the second largest in the world, though its output is greatly exceeded by that of Japan. Silk-worm breeding has for decades been an important farm industry in Italy. It is carried on mostly in Lombardy, Venetia and Piedmont, which produce about nine-tenths of the total yield of cocoons.

Exports of raw silk are one of the most important items in the country's commercial balance-sheet. Exports were valued in 1924 at \$87,127,962 1/.

Silk-worm breeding is closely associated with the cultivation of the mulberry, the leaves of which supply the food of the worms. The average pre-war (1909-13) yield of mulberry leaves was 1,122,185 short tons, that of cocoons 44,978 short tons (See Table 22). Since the war the annual supply of mulberry leaves has exceeded the above average, but the production of cocoons fell off very considerably in 1921. Since that year, however, production has increased substantially, showing in the last two years a complete recovery from depression. There is a distinct tendency now to encourage the silk-worm breeding industry. The farmers find it profitable. There seems to be no reason why it should not be carried on extensively in Central and Southern Italy as well as in the North.

Yields, which vary greatly from district to district, indicate opportunities for improvement through adoption of better methods. The cultivation of the mulberry is extending and the prospects point toward a further development of this industry.

Forage.

Fully one-third of the land termed as agricultural in Italy is given over to forage crops. Of the land in forage three-fourths consists of natural pastures. (See Table 24). In all, around 16,000,000 acres, or roughly one-fifth of the total land area is pasture land. Little or no land that can be economically cultivated is devoted to natural pastures or permanent grass. Hence, the large area of pasture lands is a good indication of the amount of land unsuited to other types of utilization. This unsuitability is due in most cases to reasons of topography and lack of moisture. Some of the land that is now tilled will undoubtedly revert to pasture if labor costs increase to any appreciable extent.

The Italian agricultural statistical service publishes the annual production of forage crops in terms of hay. Such crops as vetches, lupins, and horse beans, are published under the heading of "Leguminous plants" as appears in Table 21. The greater portion of certain of these leguminous plants is used as forage.

1/ Statistica di Importazione ed Esportazione, December 1924.
Average value of the lira for 1924 - 4.3580 cents,
from Federal Reserve Board.

Table 24. Forage: - Acreage and production in Italy, average 1912-1913 and 1921 to 1923.

I T E M	P r e s e n t b o u n d a r i e s					
	A v e r a g e		1 9 2 1		1 9 2 2	
	A c r e a g e	P r o d u c t i o n	A c r e a g e	P r o d u c t i o n	A c r e a g e	P r o d u c t i o n
	1 9 1 2 - 1 3					
	1,000 Acres	1,000 S. tons	1,000 Acres	1,000 S. tons	1,000 Acres	1,000 S. tons
Artificial 1/ meadows	5,478	12,537	4,544	9,409	4,510	9,532
Grass crops	1,165	1,597	1,050	1,082	1,061	1,234
Natural meadows: Dry	3,504	3,963	3,243	3,182	3,170	3,440
Irrigated	763	2,585	794	2,353	789	2,443
Permanent grasses	11,030	3,015	12,814	3,256	12,754	2,722
Lands with accessory forage crops	2/	3,903	2/	3,322	2/	3,304
T o t a l	21,940	27,600	22,445	22,604	22,284	22,725

Notizie Periodiche di Statistica Agraria - Italy.

Annexed territory for 1912-13 - estimated from Statistisches Jahrbuch des
K. K. Ackerbauministeriums - Austria.1921: Acreage for annexed territory estimated by taking the average of the percents of
increase in 1922 and 1923.

1/ Similar to meadows in rotation.

2/ Not available.

Table 24 gives the acreage and production of forage crops for the average 1912-13 and 1921 to 1923.

Livestock.

The latest census of livestock in Italy was taken in April, 1918, when the major part of the Venetian provinces were occupied by the enemy. These provinces in 1908 possessed 925,154 head of cattle out of a total of 6,198,861 and 382,636 hogs out of a total of 2,507,798. The lack of data concerning these provinces seriously affects the totals as far as cattle and hogs are concerned. (See Table 25).

Using Italy's livestock census of 1908 and the census of 1909 in the United States as a basis of comparison, one finds that Italy had much less livestock per 100 inhabitants than had the United States.

Table 26 gives a comparison of the number of livestock of different kinds in the two countries expressed in terms of the number per 100 inhabitants.

In all classes of livestock, except goats and burros, the United States had from 1 1/2 to 8 times as many per unit of population as had Italy. The small number of horses and mules is explained in part by the common use of burros and cattle as draft animals. Furthermore, in Italy man performs many of the tasks usually allotted to the horse in America. Horses represent a capital investment beyond the reach of many farmers. Furthermore, cattle successfully perform the multiple functions of a beast of burden, a giver of milk and a supplier of meat.

Table 25. Livestock: Number in Italy, 1876-1881,
1908 and 1918.

Livestock	1876-1881 <u>1/</u>	1 9 0 8	1 9 1 8 <u>2/</u>
	<u>Number</u>	<u>Number</u>	<u>Number</u>
Horses	657,544	955,878	989,786
Asses	674,246	849,723	949,162
Mules	293,868	388,337	496,743
Cattle	4,772,162	6,198,861	6,239,341
Buffaloes	11,070	19,366	24,026
Hogs	1,163,916	2,507,798	2,388,926
Sheep	8,596,108	11,162,926	11,753,910
Goats	2,016,307	2,714,878	3,082,553

Valenti Ghino, L'Italia Agricola del 1861 al 1911 - International Yearbook of Agricultural Statistics 1923. Census Returns.

1/ Part of livestock census taken in 1876 and part in 1881.

2/ Exclusive of territory then occupied by the enemy.

Table 26. Livestock: Number per 100 inhabitants in Italy
in 1908, compared with that of the United States, in 1909.

Livestock.	I t a l y	United States
	1 9 0 8	1 9 0 9
	<u>Number</u>	<u>Number</u>
Horses	2.8	22.4
Asses	2.5	--
Mules	1.2	4.4
Cattle	18.4	77.3
Hogs	7.5	58.9
Sheep	33.2	61.0
Goats	8.1	3.3

Livestock statistics from International Yearbook of Agricultural
Statistics 1923.

Population for Italy, 33,634,000 estimated from data in Annuaire
International de Statistique Agricole 1913-14 p. 524.

Meat is an expensive article of diet in Italy and milk and butter are not nearly as extensively used as in the United States. Cheese is the principal dairy product. Fresh pork is not sold in summer. These facts explain in part the relatively fewer cattle and hogs.

The growing importance of meat as a food is shown by the steady increase of meat imports since the war. In 1913, Italy imported 20,099,338 lbs. of fresh and frozen beef. (See table 27) In 1922 the figure was 53,071,336 lbs; 1923 it amounted to 60,042,721 lbs.; and during 1924 it increased to 268,142,412 lbs. The determining factor in this notable rise during the last year - 1924 - was the abolition of the import duty on frozen meat in June, 1923.

Table 27. Meats and meat products: Imports into Italy - 1913, 1923, and 1924.

Kind of meats	Imported from:	Calendar Years		
		1913	1923	1924
		<u>Pounds</u>	<u>Pounds</u>	<u>Pounds</u>
Fresh and frozen meats:	Serbia	1,285,282	-	-
	Jugoslavia	-	3,578,727	4,512,155
	Hungary	1/ 21,605	70,988	-
	United States	-	2,100,543	7,185,232
	Argentina	13,988,848	5,566,835	157,544,243
	Brazil	-	46,242,367	47,876,416
	Uruguay	-	-	23,725,023
	Venezuela	-	660,037	-
	Australia	4,795,887	-	-
	Other countries	7,716	1,823,224	27,299,343
	T o t a l	20,099,338	60,042,721	268,142,412
Cured meats: Hams & others	Jugoslavia	2/ 319,447	459,880	799,388
	Hungary	1/ 91,050	38,801	28,439
	United States	77,381	156,306	423,504
	Argentina	4,630	581,133	4,126,791
	Uruguay	3,307	174,604	1,906,538
	Brazil	-	33,289	-
	Erythrea	-	1,984	-
	Other countries	195,107	130,292	472,666
	T o t a l	690,922	3/ 1,800,276	4/ 8,116,455
Lard	United States	6,854,983	5,410,088	8,020,776
	Brazil	-	3,124,359	1,977,747
	Other countries	3,004,429	385,365	106,262
	T o t a l	9,859,412	8,919,812	10,104,785
Bacon	United States	12,716,133	13,055,200	25,589,454
	Jugoslavia	2/ 297,401	761,699	1,084,222
	Other countries	2,645	452,164	1,458,121
	T o t a l	13,016,179	14,269,053	28,131,797

1913 - Movimento Commerciale del Regno d' Italia nell'anno 1913;
1923 and 1924 - Statistica del Commercio Speciale di Importazione e
di Esportazione, Dicembre 1924.

1/ Austria-Hungary

2/ Serbia

3/ Includes 223,937 lbs. of cured meats, not given by countries.

4/ " 359,129 " " " " " " " " " " "

Under present conditions the dairy industry is of considerable economic importance in Italy. Although the census of 1918 does not include returns from the Venetian district then under enemy occupation the numbers of cattle in other parts of Italy indicate a substantial increase over 1908. The only detailed estimates of production are those made by Professor G. Fascetti based upon the census of 1908. According to Professor Fascetti, the number and kinds of livestock producing milk was estimated at over 2,000,000 cows, 7,374,000 ewes, 1,500,000 milk goats, and 10,000 milk buffaloes with a total production of milk estimated at 7,900,000,000 lbs., of which about 4,500,000,000 lbs. were utilized in a commercial way.

The estimated amount of commercial milk for 1908 was classified as follows: 1/

Cows!	Milk	2,724,000,000 lbs.
Sheep's	"	1,248,500,000 "
Goats!	"	340,500,000 "
Buffaloës!	"	2,300,000 "
		<hr/>
		4,315,300,000 lbs.

In 1914, Professor Fascetti estimated total milk production at 8,600,000,000 pounds, a gain of 700,000,000 pounds over 1908. Of this amount 3,600,000,000 pounds (about the same amount as in 1908) were consumed as liquid milk, while the dairy industry absorbed 5,000,000,000 pounds - a gain of 500,000,000 pounds.

During the war the stocks of cattle were depleted in Italy as in other European countries, but no recent estimates regarding production have been made. However, Professor Fascetti believes that actual production since the war considerably exceeds the previous estimates given above.

The number of sheep is declining in France (16,131,000 old boundaries in 1913 to 9,460,000 in 1920 new boundaries) and in Great Britain (24,279,383 in 1913 to 20,165,369 in 1920) but there was substantial increase in Italy (11,162,926 in 1908 compared with 11,753,910 in 1918). With the growing importance of the wool industry, efforts are being made to improve the breeds. Wool production is estimated 2/ at an average of 55,115,000 lbs. a year for the 1913-1923 period.

Writing in 1911, Professor Ghino Valenti said 3/: "The statistical data available show that livestock is inferior to the needs of agriculture and of the population. However, in the last 18 years it has increased in a ratio which if not adequate to needs is anyhow noticeable and promising." In closing his study he says: "The goal toward which Italian agriculturists should devote all their efforts is to create conditions (by regulating water courses, reforestation of mountain areas, irrigation and hydraulic works) suited to a development of the livestock industry."

1/ Milk and milk products. International Inst. of Agriculture, 1924.

2/ Mortara, G. - Prospettive Economiche, 1925. 3/ L'Italia Agricola dal 1861 al 1911 - edited by the Accademia dei Licei, Hoepli, Milan, 1911.

Table 28. Number of dairy cows and milk sheep in Italy, 1908 and 1918.

KIND	1908	1918 1/
Cows and heifers one year old and over	3,403,377	3,071,345
Percentage of total number of cattle...	54.9	49.2
Ewes one year old and over.....	7,874,216	8,559,000
Percentage of total number of sheep....	70.5	72.9

1/ Exclusive of territory then occupied by the enemy.

Table 29 indicates Italy's trade in dairy products for the pre-war average 1909-13 and the post war years 1920, 1923 and 1924.

Table 29. Italy. - Trade in dairy products - Average 1909-13, 1920, 1923 and 1924.

PRODUCT	Average 1909 - 1913		1920		1923		1924	
	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports
	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.	1,000 lbs.
Fresh or sterilized milk	149	3,192	7	852	249	2,282	91	2,269
Condensed milk unsweetened	82	93	497	524	170	2,303	346	5,912
Condensed milk sweetened	722	5,817	1,136	81	316	4,482	509	7,648
Powdered milk	493	44	720	21	456	59	334	122
Butter	972	7,370	3,104	95	526	2,905	1,002	6,436
Cheese	13,307	60,561	5,893	2,790	10,228	50,389	4,156	74,110

Milk and milk products. - International Institute of Agriculture. 1924.

Statistica di Importazione e di Esportazione - Ministero Finanze, 1924.

Forests.

In the first "Statistical Yearbook for Italy," published in 1864, the area under forests, including chestnut woods, was reported as 12,430,121 acres. Hence, on that date about one-fifth of the territory was wooded. ^{1/}

The International Institute of Agriculture ^{2/} reports the following for 1913:

4,447,800	acres	in North Italy,	i.e.	19.6	percent	of productive area				
4,101,860	"	"	Central Italy	"	24.5	"	"	"	"	"
2,730,455	"	"	South Italy,	"	10.8	"	"	"	"	"
11,280,115	^{3/} "	"	All Italy,	"	17.3	"	"	"	"	"

or, on an average, 15.9 percent of total area of Italy. This is a low figure for a country like Italy, in which mountain areas, the natural habitat of forests, cover 36.7 percent of the territory. As the figures show, the forest area has declined by over a million acres in the past 50 years. On the other hand, Italy acquired with the territories assigned under the peace treaties an additional 2,060,000 acres of forest lands, which brings the percentage of area under forests for the whole kingdom to 19 percent.

The most valuable forests are those of coniferous trees in the Alpine regions. Beech forests are characteristic of the high Appenines. Italy is one of the few Mediterranean countries where conditions are favorable to the cork-oak, which grows in Sardinia, Sicily and Tuscany. The cork forests are of special importance in Sardinia where they cover an area of 104,000 acres. The average annual output of cork is estimated at 5,512 short tons. Splendid oak forests used to be characteristic of the Italian mountains, but they have been cut down, largely for use as railway ties. The State Railways require annually 10,594,200 cubic feet of timber for this purpose. The reserves are rapidly running out.

Italy has some 890,000 acres under chestnut forests, valued especially for the chestnut crop, with an average yield of 66,138 short tons, of which about one-third is exported. In 1864, 1,472,000 acres were under chestnuts. Of recent years, many of these valuable forests have been cut down to extract tannin from the wood, while others have been destroyed by a fungus disease.

^{1/} Annuario Statistico Italiano, 1864.

^{2/} Les Forets - Institut International d'Agriculture, 1924.

^{3/} This roughly approximates the total for 1913 of 11,277,000 given in Ufficio di Statistica Agraria 1913-14, Vol IV, p.211.

The ever-growing demand for wood pulp and cellulose has led to extensive plantations of poplars (*Populus canadensis*) which are grown on a large scale in the valley of the Po, and are being introduced and their growth encouraged in other parts of Italy.

Much of the wood cut in Italy, especially beech and oak, is used for making charcoal of which there is an annual output of some 496,035 short tons, used as domestic fuel.

The average amount of lumber obtained from Italian forests for industrial purposes before the war was estimated at about 35,314,000 cubic feet, a figure which was regarded as exceeding the normal productive capacity of the forests. The consumption needs during the same period were estimated at about 183,632,800 cubic feet. During the war the amount of lumber procured from Italian forests rose to an annual average of 74,159,400 cubic feet. The excessive output was followed after the peace by a decline below the prewar amount in order to allow the forests to recuperate. The forests in the recently acquired provinces supply an annual average of approximately 17,657,000 cubic feet of lumber.

About 331,000 acres of forest land are state property; of the remainder about half is owned by communes and corporate bodies, while half is in private hands.

The importance of a well-organized forestry service is now generally recognized in Italy. Great injury has been done in the past, especially in the southern provinces, by reckless destruction of forests, leaving the mountains bare. Forestry legislation has recently been revised, and the needed hydraulic and forestry work in mountain areas is now carried out at Government expense. Such work consists in reforestation and other works for retaining the earth in its place and the necessary construction for regulating water courses. The plans for such works in mountain zones are drawn up by the forestry service jointly with the board of civil engineers. In other than mountain zones where the State, in the public interest, places limitations upon the use which may be made of forests, the Government contributes to the cost of reforestation.

To encourage silviculture in mountain areas, other than those directly managed by the Government, the law grants exemption from the land tax for 40 years in the case of forests and 15 years in the case of copses (woods) and grants subsidies up to a maximum of two-thirds of the cost of planting new forests, or replanting those which have deteriorated. Such forests must be worked on a plan approved by the forestry administration. Communes and corporate bodies are required to manage forests belonging to them in accordance with plans approved by the forestry service. The forestry service is under the Ministry of National Economy.

Gross Value of Agricultural Products.

The gross value of all agricultural products in Italy (average for the 3 years 1921, 1922 and 1923) not including silk cocoons, poultry and eggs, is shown in Table 30.

Table 30. Gross value of all agricultural products in Italy, Average 1921 - 1923.

P r o d u c t	V a l u e ^{1/}	
	In Lire	In Dollars
Cereals	7,663,000,000	348,694,087
Legumes	551,000,000	35,072,484
Tubers	997,000,000	45,367,089
Forage crops	7,900,000,000	359,478,440
Industrial plants	1,130,000,000	51,419,068
Fresh and dried fruit	2,367,000,000	107,707,021
Vegetables	1,491,000,000	67,845,868
Ornamental plants	88,000,000	4,004,316
Other vegetable products	438,000,000	19,930,576
Wine and other products of the vine	7,801,000,000	354,973,584
Oil	1,605,000,000	73,033,278
Products of wood	1,200,000,000	54,604,320
Some animal products	2,445,000,000	111,256,302
Unspecified	30,000,000	1,365,108
T o t a l ^{2/}	35,706,000,000	1,624,751,541

Statistical Abstract for Italy, 1925.

1/ Average value of the lira for these years was around 4.55036 cents according to the Federal Reserve Board.

2/ Calculations are based on the average prices for the three years 1920-21-22, that is, wheat 106 lire per ql., maize 80 lire per ql., rice 92 lire, oats 92 lire, barley 76 lire; rye 81 lire; seed beans 120 lire; haricot beans 180 lire; lupins 100 lire; legumes 100 lire; potatoes 60 lire; hemp 600 lire; flax 1,000 lire; tobacco 600 lire; oil seeds 200 lire; citrus fruits 35 lire; pulp fruits 160 lire; pears, apples, and chestnuts 400 lire; carubs 80 lire; pistacio nuts 1,800 lire; chestnuts 100 lire; dried figs and prunes 250 lire; tomatoes 50 lire; cabbages and cauliflowers 70 lire; garlic and onions 100 lire; artichokes 150 lire; cut flowers 1,200 lire; wine 200 lire per hectoliter, oil 800 lire; resinous wood 100 lire per quintal, etc.

Imports and exports of Agricultural Products.

Table 31 shows Italian imports and exports classified in groups.

Table 31. Imports and exports of Italy, expressed in value, 1923 and 1924.

C O M M O D I T Y	Imports <u>1/</u>		Exports <u>1/</u>	
	1923	1924	1923	1924
	1,000 dollars	1,000 dollars	1,000 dollars	1,000 dollars
Animals, foodstuffs, and tobacco	239,817	210,679	155,709	163,490
Seeds, vegetable oils, oils & fats	29,754	41,575	14,923	17,205
Textile fibres and their products	200,832	236,374	250,792	288,129
Metallic ores, metals and their products	82,162	102,230	33,946	41,828
Stones, earths, non-metallic ores and their products	86,045	84,454	18,636	20,374
Woods and materials for plaiting inlaying and carving	25,240	32,986	7,795	8,158
Chemical products, medicinals and materials for tanning & dyeing.	58,100	61,504	17,403	18,957
Sundry merchandise	69,028	75,093	56,926	65,470
T o t a l:	790,978	844,895	556,130	623,611

1/ Converted from lire - Average value of a lira 1923 = 4.6016 cents
and 1924, 4.3580 cents. From Federal Reserve Board.

Figures in Table 31 show that agricultural products form the bulk of Italian trade, both in imports and exports. They show a heavy excess of food imports over exports. While Italy's exports of food products increased to a notable extent in 1924, it is unlikely that the pre-war ratio between her agricultural exports and imports will be recovered.

Italy imports staples such as wheat, meat, cotton, wool and animal fats, and exports luxuries like raw silk, wines, citrus fruits, early vegetables and tomato paste. The agriculture is, therefore, particularly susceptible to conditions affecting the purchasing capacity of the export markets, which can curtail their demand at will, whereas Italy's own needs are the necessities of life for an ever-growing population.

An examination of food imports shows that: In regard to cereals Italy is markedly an importing country. With the single exception of rice more is imported than exported. From one-fourth to one-third of its annual requirements of wheat are grown beyond its borders. (See Table 14).

Imports of foreign wheat during the past three years show a notable increase over the pre-war average. Exports are negligible.

There is a flourishing home milling industry, and of late, considerable flour milled in Italy has been exported, especially to the Balkan countries. Italian imports of wheat flour are inconsiderable.

The small quantity of wheat (862,880 bushels in 1923) and considerable quantities of the flour exported from Italy are chiefly of the hard wheat varieties grown in Sicily and Apulia valued for their special qualities.

The bulk of the imports of wheat comes from the United States, Canada, Argentina, and Australia, (See Table 32) the largest portion of the hard wheat coming from the United States and Canada. The largest portion of soft wheat originates in the United States, with considerable quantities coming from Argentina, Canada and Australia.

Table 32. Wheat and corn. 1/ - Imports into Italy by Countries,
1913 and 1922 to 1924.

Commodity and country	Calendar years			
	1913	1922	1923	1924
	1,000 bushels	1,000 bushels	1,000 bushels	1,000 bushels
WHEAT:				
Rumania	11,738	444	83	298
Russia	32,388	-	432	1,238
Ukraine	-	-	-	1,388
Morocco	-	110	67	101
Tunis	-	24	175	34
Egypt	-	16	2	-
Germany	566	-	-	-
India	1,635	152	733	442
Canada	-	7,710	13,713	15,170
United States	5,651	64,884	63,179	42,332
Argentina	10,898	5,030	9,158	11,617
Australia	3,030	20,066	14,525	5,249
Other countries	621	84	551	432
T o t a l	66,527	98,520	102,468	78,301
CORN:				
Rumania	3,198	4,379	3,587	2,262
Russia	484	-	-	-
Jugoslavia	-	-	821	351
Morocco	-	102	15	-
India	-	1	730	90
United States	59	2,164	801	244
Argentina	9,938	12,606	11,225	2,637
Other countries	168	607	308	207
T o t a l	13,847	19,359	17,437	5,791

Statistica del Commercio Speciale di Importazione
3 di Esportazione Italy.

1/ Does not include flour and meal.

Corn is the cereal of second importance from the standpoint of imports. Imported corn is used almost exclusively by the starch and distillery industries. Argentina and Roumania furnished practically all the corn coming into Italy in 1924. (Table 32).

Rice is the one cereal exported in large quantities. In 1924, an amount equal to nearly one-fourth of the total production was exported. France, Switzerland, Yugoslavia, Argentina and Austria were the heaviest buyers.

Italy imported in 1924 about 50,661 short tons of sugar. Exports amounted to about one-half the imports. Exports are increasing rapidly. (Table 33). Tobacco is another leading import item - 35,712,000 lbs. in 1924. (See table 33).

Table 33. Italy's trade in specified commodities - Calendar years, average 1909-1913 and 1921 to 1924.

I m p o r t s						
I T E M	Unit	Average 1909-13	1921	1922	1923	1924
Grapes 1/	S.tons	1,543	573	816	1,629	2/ 1,529
Wine; in barrels.	1,000 Gals.	567	63	121	55	259
in bottles	100	8,725	4,679	4,667	4,328	6,938
Sugar	S.tons	9,259	106,504	38,603	39,698	50,661
Olive oil	S.tons	3,814	12,598	4,660	558	167
Tobacco leaf	1000 Lbs.	47,732	63,417	49,333	41,304	35,712
Hemp	S.tons	6,724	2,037	1,949	1,758	5,558
Flax	S.tons	2,340	799	761	1,127	1,790
Butter	1000 Lbs.	972	1,004	2,964	526	1,002
Cheese	1000 Lbs.	13,305	1,780	15,571	10,228	4,156
Coffee	1000 Lbs.	52,278	105,594	104,195	105,963	103,574
Peanuts 3/	1000 Lbs.	70,770	52,278	84,241	58,423	57,859
Peanut oil	S.tons	4,535	14,080	3,321	673	4,302
Flaxseed	1000 Bus.	1,673	749	1,217	1,470	2,288
Flaxseed oil	S.tons	523	3,782	3,228	1,179	2,189
Spaghetti, macaroni etc.	1000 Lbs.	75	62	98	55	35
E x p o r t s						
Grapes 1/	S.tons	32,275	9,554	6,142	14,780	2/ 44,486
Wine; in barrels	1000 Gals.	36,487	22,765	22,352	20,653	66,136
in bottles	100 -	167,567	51,694	45,676	49,257	56,900
Sugar	Short tons	131	20	10	2,339	27,201
Olive oil	"	37,565	15,454	20,255	47,279	46,865
Tobacco leaf	1000 Lbs.	2,973	-	2	869	2,531
Hemp	S.tons	58,958	29,586	67,055	62,677	57,253
Flax	S.tons	3	44	126	163	258
Butter	1000 Lbs.	7,869	145	1,683	2,905	6,436
Cheese	1000 Lbs.	60,531	16,664	32,057	50,389	74,110
Coffee	1000 Lbs.	458	13	5	10	22
Peanuts 3/	1000 Lbs.	49	191	768	36	48
Peanut oil	S.tons	2	30	13	15	1
Flaxseed	1000 Bus.	2	4/	2	3	1
Flaxseed oil	S.tons	85	237	98	119	133
Spaghetti, macaroni etc.	1000 Lbs.	140,041	18,406	31,586	35,829	41,066

Statistica del Commercio Speciale di Importazione e di Esportazione - Italy.

1/ Years beginning July 1. 2/ Ten months - July 1924 to April 1925.

3/ Includes some sesame seed. 4/ Less than 500.

The importations of fresh and frozen meat deserve special notice, not only because of the quantity - 268,142,412 lbs. in 1924 - but because of the enormous increase in this quantity after the duty was taken off this product in June, 1923. The 1924 imports are five times those of 1923. Argentina, Brazil and Uruguay furnish the bulk of the meat imports. (Table 27).

Raw silk heads the list of Italy's agricultural exports when measured in terms of value. This export in 1924 was valued at \$87,125,136 ^{1/} and was the largest item on the list of exports. It was followed, but at a distance, by wine and citrus fruits. The exports of potatoes, fruits, and vegetables (dried and fresh), and nuts run high. From the standpoint of value, hemp, cheese, and olive oil also deserve an important place in the list. The principal agricultural export commodities are summarized in Table 34. Italy's import and export trade in dairy produce is given in Table 29.

^{1/} Converted from lire. Average value of a lira in 1924 was 4.3580 cents.

Table 34. Principal Agricultural Products Exported from Italy,
1913, 1923 and 1924.

Products	Unit	1913	1923	1924
Hogs	Number	3,779	13,547	3,402
Live poultry	Pounds	10,264,397	2,742,302	4,009,065
Dead poultry	"	5,820,805	4,074,953	4,064,621
Fresh meat	"	3,479,961	6,865,736	1,565,809
Canned or smoked meat	"	10,984,199	7,111,158	6,702,204
Eggs	"	54,621,390	19,758,948	57,513,234
Candied fruits and peel	"	5,985,709	3,832,477	4,672,870
Marmalades, jams, etc.	"	1,711,211	1,402,787	4,466,961
Rice	"	168,400,576	190,466,417	376,051,850
Wheat flour	Barrels	1,060,495	894,588	1,438,442
Dried vegetables	Pounds	410,056	43,966,338	162,847,138
Potatoes	Bushels	5,176,695	6,114,127	6,790,940
Fresh vegetables and tomatoes	Pounds	206,370,181	146,318,420	217,683,086
Citrus fruits	"	961,370,504	492,847,369	662,528,376
Other fresh fruits (ex- clusive of table grapes)	"	449,492,587	218,602,624	265,363,072
Chestnuts	"	77,765,060	67,981,046	79,592,674
Dried figs	"	51,621,370	40,033,993	50,647,378
Almonds	"	23,134,631	52,084,336	56,873,509
Nuts	"	34,169,095	45,632,134	32,690,250
Walnuts	"	8,892,475	16,297,285	16,615,409
Fruits and vegetables pickled or in oil	"	47,908,163	43,694,952	42,803,852
Tomato paste	"	103,072,546	92,194,829	141,855,648
Manufactured tobacco	"	3,312,661	1,846,787	2,096,967
Silk cocoons	"	475,769	214,287	307,337
Raw silk	"	16,224,754	11,431,512	11,982,221
Essential oils of citrus fruits	"	1,255,760	2,035,695	2,235,725
Sumach	"	52,259,823	39,078,960	31,782,836
Hides (raw)	"	62,024,878	61,434,265	59,807,932

Statistica di Importazione e di Esportazione, 1913, 1923 and 1924.
Ministero Finanze.

In 1924, lumber imports were valued at \$25,450,367 ^{1/} and exports at \$1,353,580 ^{1/}.

Table 35. Imports and Exports of Common Rough Lumber of Italy,
1922, 1923 and 1924.

COUNTRY	1 9 2 2		1 9 2 3		1 9 2 4	
	Imports	Exports	Imports	Exports	Imports	Exports
	S. tons	S. tons	S. tons	S. tons	S. tons	S. tons
Austria. . . .	310,938	-	415,522	-	653,168	-
Czechco-Slovakia	17,658	-	2,166	4,211	3,016	1,530
Finme	15,106	4,878	16,116	12,109	6,941	2,767
France	5,567	6,631	8,287	11,363	6,211	7,381
Germany	20,376	398	21,929	2,508	2,701	1,578
Do ^{2/}	83,723	-	88,093	-	3,254	-
Great Britain)	4,859)	-	3,491)	-	1,813)	-
Ireland)						
Jugo-Slavia . .	370,433	-	496,434	-	647,805	-
Roumania . . .	23,218	-	39,934	-	40,400	-
Switzerland . .	7,592	2,619	8,848	3,431	12,519	5,581
United States .	66,338	-	66,670	-	92,065	-
Argentina . . .	-	89	-	1,401	-	3,196
Tunis	-	1,401	-	1,244	-	1,434
Tripoli & Cir.	-	3,264	-	4,577	-	2,250
Egypt	-	340	-	612	-	2,034
Spain	-	1,216	-	3,047	-	4,320
Italian						
Somaliland . .	-	1,812	-	2,529	-	949
Other						
Countries: . .	7,291	7,171	18,935	8,435	33,677	14,047
T o t a l:	933,099	23,813	1,186,425	55,467	1,503,570	47,067

Statistica del Commercio Speciale di Importazione e di Esportazione, 1924.

^{1/} Converted from lire - Average value of a lira in 1924 = 4.3580 cents from Federal Reserve Board.

^{2/} Reparations Account.

AGRICULTURAL LABOR

Italy had 4,600,000 farm laborers according to the occupational census of 1911. Of this number 4,216,000 were classed as casual day laborers. Hence, farm labor paid by the hour or by the day, and largely casual labor is a prominent feature of Italian agriculture. Such labor is employed on the large tenant farms of Lombardy and Venetia, on recently reclaimed lands in the districts of Bologna, Ravenna and other parts of Emilia, on the large estates of Latium, largely under grass and cereals, in the wheat fields of Apulia and in connection with the Latifundia of Sicily.

Thirty years ago, the landless wage workers employed by the day on farm and land reclamation work were miserably poor. Their wages fluctuated round 1 lira (20 cents) a day; their food consisted largely of corn mush, often made with corn of low grade. As a result the terrible disease pellagra, leading to feeble-mindedness and insanity, was a scourge of north Italy, more especially in the Venetian and Emilian provinces, but had also spread through central Italy. These conditions led to serious agrarian agitations in the nineties.

In the south the outlet was found in emigration. In the north, the trade union movement, which took root in Italy in those years, spread to the countryside, and the agricultural laborers organized a "peasants' league", which soon became powerful. The 'peasants league' employed the strike and the boycott to improve their status.

The province of Emilia offers a typical instance of these developments. The union of agricultural laborers combined with tenant farm families. Conditions and wages were laid down by the organizations and accepted by the poorly organized landowners.

This, however, often led to trouble with other classes of farmers and agricultural employers adversely affected by the higher cost of wage labor. They reduced to a minimum the amount of hired labor employed. For instance, the area under rice which requires much labor was reduced and the area under grass increased. The use of machinery was intensified. Much work formerly performed was omitted. This led to unemployment, which, in turn, caused agitations for even higher wages and shorter hours, so that the reduced amount of work might suffice for a living. Laborers' unions attempted to prevent the exchange of labor between farms in order to prevent the tenant farmer from reducing by this means his outlay for hired labor. The unions combined to purchase threshing machines and attempted to make it compulsory for landowners to hire them and their machines for threshing.

On the other hand, they organized against the increased use of machinery on the farm, with the avowed purpose of making it compulsory to employ a certain fixed amount of labor per acre. This led land owners to turn to the crop-sharing lease and the tenant farmer. This

preference in turn led to hostility between wage workers and operators of small farms and in working large estates under rice, sugar-beets and similar crops, the owners endeavored to replace wage workers by labor hired on a crop-sharing agreement.

On their side the laborers passed from a program restricted to the attainment of higher wages to the formation of cooperative associations for leasing and farming lands. It is true that through this activity they often failed to obtain a money return equivalent to the high rate of wages demanded from landowners, yet it served their purpose, as it enabled them to form labor monopolies and sell at a high rate the amount of labor required by the landowners while keeping the remaining workers employed at a lower return on the cooperatively leased lands. This arrangement avoided the danger of the less efficient unemployed competing in the labor market.

The extent to which the agricultural strike has been used as an instrument for bettering conditions can be seen by the data contained in Table 36.

Table 36. Strikes of agricultural laborers in Italy, 1881 to 1924.

Year	Strikes	Workers involved.	Year	Strikes	Workers involved.
	<u>Number</u>	<u>Number</u>		<u>Number</u>	<u>Number</u>
1881	1	100	1903	47	22,507
1882	2	2,200	1904	208	94,756
1883	3	262	1905	87	43,695
1884	10	245	1906	350	117,595
1885	62	8,857	1907	377	254,131
1886	17	3,846	1908	286	173,425
1887	9	2,275	1909	132	46,569
1888	5	1,366	1910	97	25,805
1889	4	1,087	1911	148	132,738
1890	6	1,950	1912	176	95,841
1891	24	7,795	1913	97	79,842
1892	10	3,504	1914	123	43,819
1893	18	12,390	1915	69	47,508
1894	8	4,748	1916	61	14,862
1895	7	1,765	1917	27	6,191
1896	1	100	1918	10	675
1897	12	24,135	1919	208	505,128
1898	36	8,495	1920	189	1,045,732
1899	9	1,895	1921	89	79,298
1900	27	12,517	1922	23	25,146 ^{1/}
1901	629	222,985	1923	1	110 ^{1/}
1902	221	146,592	1924	6	2,728 ^{1/}

Documenti sulla condizione finanziaria ed economica dell' Italia.

Min. Fin. May 1923.

1/ Supplemento Gazzetta Ufficiale - March 1925.

In 1920 the Ministry of Agriculture ordered an inquiry ^{1/} which furnishes much valuable data on wages and working conditions of agricultural labor.

For heavy summer work on the farm - harvesting, threshing, gathering hemp, etc. - men received from 10 to 12 cents per hour; for lighter work 7 cents, fluctuating very little above or below that line, falling in the winter to a minimum of 5 cents. ^{2/}

The hours were fixed at a maximum of eight in the summer. overtime was exceptional, and in no case did the day exceed ten hours. Overtime was paid at a rate of 25 to 50 per cent above the usual wage. The use of machinery in many districts was made conditional on full employment of all available labor, including women. Labor had to be hired exclusively through a labor exchange on which both employers and laborers were represented. A joint municipal commission determined the minimum number of hands to be employed on each farm. In some districts, landowners were required to undertake to employ steadily one person for every 15 acres, precedence being given to union labor. Joint commissions of employers and laborers were appointed to see that the work was fairly distributed between permanent and casual labor. The agreements required that the use of machinery cease when unemployment was prevalent.

In Parma a decree issued by the prefect appointed a commission presided over by the mayor and consisting of equal numbers of employers and laborers, to inspect all farm lands within the communal area and take steps to insure their being fully cultivated and by methods likely to insure normal yields.

The Report considers that wages at this time had increased in the ratio of 1 to 3 or 3 1/2 over pre-war rates, while the worker's share in certain provinces in the rice and beet crops which supplemented the money wages were increased to a much greater extent.

The higher wages of day laborers reacted in better conditions for all other salaried farm hands. Herdsmen in the province of Piacenza had the number of dairy cows entrusted to them reduced from 12 - 14 to 10, and received:

	1914-1915	1918-1919
Wheat per annum - Bu.	29.8	39.7
Maize " " - Bu.	39.7	39.7
Cash " " - Dollars ^{3/}	44.76	220.28
Faggots per month - no.	60	60
Wine per day - Gals.	.5	.5
Milk per day - Gals.	.5	.5
Premium for each calf born and for carting outside farm area. Dols.	.18	.24

^{1/} Le agitazioni dei contadini nell' Italia settentrionale e centrale e la riforma dei patti agrari. Prof. A. Serpieri. Ministero di Agricoltura, 1920.

^{2/} The lira in 1920 was worth 4.97 cents. ^{3/} Value of a lira:
1915 - 16.546 cts. - 1918 - 13.107 cts. 1914 - 19.264 cts.
1919 - 11.369 cts.

The herdsman and his family are provided with a four-room cottage rent free, a vegetable garden (.02 acre) and a pig-sty with the right to fatten a pig; and he may farm as much land as he can manage with the help of his family, sharing in the return in the following measure:

	<u>1914-1915</u>	<u>1918-1919</u>
For each 220 pounds of sugar beets.	\$0.09	\$0.27
For each 220 pounds of tomatoes27	.49
Maize (quantity)	1/4th	2/3 rds

Plowmen were entrusted with the care and management of one pair of oxen only, receiving the same pay and allowances as herdsmen, minus the milk allowances. The hours were eight a day with a maximum of two hours overtime paid at special rates and one day of rest each week.

In the province of Parma, wage workers caring for cattle were entrusted with not more than 12 head each. Annual wages were 2,800 lire as compared to 800 before the war. House, pig-sty and vegetable garden were provided rent free, together with the right to keep poultry or to receive in lieu thereof 100 lire and to glean the fields or receive in lieu thereof 50 lire. They also had eight-tenths of an acre of land, and a daily allowance of milk.

The hours vary from a minimum of 6 (Jan. to Feb.) to a maximum of 10 (May to July), any overtime paid at the rate of 1.75 lire per hour; all Sundays free, and in addition 7 other full holidays in the year.

In the province of Reggio Emilia the terms of employment for plowmen and farm servants were the following:

Free lodging or L.	100
40.4 bu. wheat " "	825
43.3 bu. corn " "	660
3,307 lbs. grapes " "	600
cash	900
Hemp, beans, wood " "	330
Total value L.	3,415 a year.

In addition they received .50 centimes per 26 gallons of milk handled, 1 lira for each calf born, 2 lire for each head of cattle sold, .1 gallon of milk a day, 1.8 bushels of wheat during the harvest, the use of a poultry yard and market garden. They work from 8 to 10 hours a day according to the month.

Table 37 shows the range of wages per hour for agricultural day laborers in 1920.

Table 37. Scale of wages for agricultural day-laborers in Italy, 1920.

District	Minimum wage for ordinary work. 1/	Maximum wage for harvesting etc. 2/
	<u>Cents per hour</u>	<u>Cents per hour</u>
Alessandria	6	9
Vercelli	7	11
Novara	5	9
Milan	5	10
Brescia	6	11
Mantua	9	11
Vicenza	6	9
Padua	5	10
Verona	9	12
Rovigo	6	17
Cremona	7	11
Crema	8	11
Piacenza	7	11
Parma	12	17
Reggio Emilia	9	15
Bologna	6	10
Ravenna	9	20
Forli	8	11
Rome	7	13
Viterbo		13
Civitavecchia	7	12

"La Riforma Agraria", Parma, No. 6, June 1920.

Labor contracts and farm leases have been recently revised.

LAND RECLAMATION

The pressure of population upon food resources has made it imperative to utilize the land to its fullest extent. This condition promotes the reclamation of land. In addition, the grave health problem involved in the ravages of malaria so prevalent in all marshy districts of Italy has made the drainage of swamp land a sanitary necessity.

1/ The lira in 1920 was worth about 4.97 cents.

2/ Laborers hired for the harvest and threshing receive above: the money wage 5 meals a day and .5 gallon of wine.

In Italy, malaria is a serious agricultural problem. It is a disease of the rural population. In districts where it prevails the efficiency and vitality of the population is permanently impaired. Entire districts, like the Roman Campagna, and whole islands, like Sardinia, have become agriculturally negligible as a result.

The progress made in less than twenty years in curbing the ravages of this scourge is made evident by the figures published in the *Annuario Statistico Italiano* of 1911. Deaths from malaria in the five-year period 1887-91 were 58.0 per 100,000. For the period 1905-09, the number had been reduced to 14.0 per 100,000. In the worst districts the figures fell from 352.0 to 103.0 in the province of Cagliari (Sardinia); from 200.0 to 74.0 in the province of Potenza (Basilicata); from 202.0 to 60.0 in the province of Trapani (Sicily); from 145.0 to 12.0 in the province of Chieti (Abruzzi); from 100.0 to 15.0 in the province of Rome.

These results have been largely due to the systematic use of quinine. Special laws have been enacted requiring the daily distribution of the drug to all workers employed in the malarial districts at certain seasons of the year. Conditions in North Italy (Venetia, Ravenna, etc.) have been greatly improved by the completion of the drainage system.

When Italy became a united kingdom in 1870, swamps, marshes, and lands with drainage so defective as to be a menace to health covered an area of 4,545,184 acres distributed as follows: 1/

	<u>Acres</u>
North Italy	2,510,721
Central "	311,682
South "	1,373,374
Islands.	<u>349,407</u>
	4,545,184

While the marsh area is smaller, the conditions as regards malaria are worse in southern and central than in northern Italy.

The Italian government began to deal with land reclamation in 1882. Since that date 2,075,640 acres, or about 46 per cent of the total area requiring attention has been reclaimed. These figures refer largely to areas which have been drained or from which water has been diverted in order to improve sanitary conditions. Agricultural development has rapidly followed reclamation in North Italy, but has dragged behind in the central and southern provinces. In the North, reclamation works have almost all been carried out by associations of land-owners. On the 741,300 acres reclaimed by such associations the work has been completed by agricultural development, followed by social and economic consequences of the greatest importance.

1/ Documenti sulla condizione finanziaria ed economica dell' Italia, Ministero Finanze, May 1923.

In central and southern Italy, drainage has been carried out by the Government in districts where land-owners had not the requisite capital for agricultural development, or did not wish to change their way of using the land; consequently the economic benefits have been less considerable.

Up to December, 1922, the Government has expended many hundred million lire on land reclamation. This was far from representing the total cost of the work since government aid was in many cases a subsidy designed to encourage the use of private capital. The data for government expenditure on land reclamation in Table 38 indicate the reduction of this work during the war:

Table 38. Expenditure on land reclamation in Italy, 1913-1922.

Y e a r	Expenditure	Value of lire.
	Dollars	Cents
1913-14	3,965,519	19.30
1914-15	3,792,983	19.264
1915-16	3,082,123	16.546
1916-17	2,375,771	15.275
1917-18	1,750,619	13.308
1918-19	1,976,547	13.107
1919-20	4,528,475	11.369
1920-21	2,881,034	4.970
1921-22	2,922,482	4.2936

Documenti Sulla condizione finanziarie ed economiche dell' Italia.
Ministero Finanze, 1923.

Immediately after the armistice, there was a renewed activity in this field partly with a view to providing work for demobilized men.

The outlay for 1922-23 indicated a further increase, the actual expenditure for the first six months being \$2,663,867. ^{1/} In recent months there is reported to have been a progressive decline in expenditure for reclamation purposes. When increased prices and currency depreciation are borne in mind, the actual work accomplished is seen to be considerably less than in pre-war days.

Considerations of economy have induced the Administration to undertake no new land reclamation schemes to be carried out by the State direct. In this field it restricts its activities to completing work already begun, and in many instances to the mere upkeep of the part already completed. On the other hand, greater concessions have

^{1/} Lire worth 4.7559 cents in 1922.

been given for reclamation work to contractors who advance private funds for the purpose. Assistance by the Government is given in the form of annual payments to a sinking fund. These payments, which do not weigh so heavily on the budget, secure the execution of more extensive works than could be carried out by direct government action. Moreover, the results obtained are more satisfactory as the contractor is interested in securing the most profitable results from land reclamation by following it up with agricultural development.

In November, 1924, the Government decided to intensify public works which will develop the economic resources of the southern provinces and the Islands and has adopted a scheme which will entail an expenditure of 5,000,000,000 lire ^{1/} over a period of 10 years. The projects contemplated include drainage, irrigation and water supply systems, as well as roads, railways, and labor improvements.

The agricultural prosperity of northern Italy owes much to irrigation. Of 3,044,472 acres of lands on the plain of Lombardy, 1,592,592 acres were irrigated in 1911; out of 2,337,384 acres in Piedmont, 841,929 acres were irrigated. In central and southern Italy and the Islands, regardless of the great need, little has been done in this direction. In 1911 the figures for the whole of Italy showed that 3,372,838 acres had been irrigated, and that an additional area of 2,984,293 acres are susceptible to irrigation. ^{2/}

In the South and the Islands, where the need is most felt, the destruction of forests has made the problem a very arduous one. It consists essentially in the regulation of mountain water courses and the collection of water in great artificial reservoirs or lakes. A resolute effort has been made in this direction in the past 20 years, beginning in north Italy where the demand for electric power for industrial purposes encouraged the formation of hydro-electric companies. Vast sums have been invested in building dams, reservoirs and power stations, amounting in December, 1924, to more than a billion dollars. Since the war, truly colossal works of this nature have been carried out in Sardinia by the construction of an artificial lake in the Tirso Mountain, which will be used both for power and irrigation. Similar accomplishments exist in the Piana dei Greci above Palermo; in the Sila plateau in Calabria; and important works on these lines are being carried out in central and northern Italy. The ultimate aim is to make of the Appenine Mountain range a sponge, by storing the water of its many torrents in flood during the winter months for year-around power and for irrigation purposes during the summer droughts.

FERTILIZERS.

The success of Italian agriculture depends largely on the abundant use of fertilizers which render it possible to farm land which has been in use for the past 3,000 years. Indeed, a rough

^{1/} Since the proposed expenditure is to extend over a series of years the total dollar equivalent cannot be calculated. In 1924 one lira equalled 4.353 cents.

^{2/} L'Italia Agricola dal 1861 al 1911, Rome, 1911. Chino Valenti.

index to the prosperity of Italian agriculture is afforded by the amount of fertilizer used.

The pre-war high water mark was reached in 1913. During the war years there was a heavy decline. Since then the quantities of fertilizer used have steadily increased, as is shown by the following table:

Table 39. Amounts of chemical fertilizers employed in Italy.

Fertilizers	1913	1918	1923	1924
	<u>S. tons</u>	<u>S. tons</u>	<u>S. tons</u>	<u>S. tons</u>
Superphosphates.....	1,184,972	473,389	1,212,530	1,344,806
Basic slag.....	132,276	110	63,933	90,389
Nitrate of soda.....	55,115	22,046	46,297	50,706
Ammonia sulphate.....	38,580	12,676	33,069	44,032
Calcium cyanamide.....	16,534	16,534	44,092	66,138
Potash fertilizers	27,558	3,358	37,478	35,274
T o t a l	1,455,035	529,213	1,437,399	1,631,405

Supplemento alla Gazzetta Ufficiale - 20 Marzo, 1925,
Ministero Finanze, Roma.

Before the war, Italy was almost entirely dependent on imports for her supply of phosphates, potash salts and nitrates. Since then, important plants for the fixation of atmospheric nitrogen have been erected which it is thought will soon meet fully Italy's need for nitrogenous fertilizers.

The phosphates which are used by the home industry for the manufacture of fertilizers come mostly from Tunis, the potash salts from Germany.

LAND TENURE.

Land tenure in Italy may be classified into four groups according to type: Small freeholds, cash tenancy, crop-sharing tenancy and large estates (latifundia). The nearest index to the proportion of farms operated under each of these classes is found in the farm occupational census of 1911. (Table 40). Since these figures refer to occupied persons rather than to farms, they give no accurate measurement of the number of farms operated under the different forms of tenure. They do, however, represent the relative proportion of the number of farms operated under each type of tenure, since this portion can be measured by the occupied persons of operator families in each group.

Table 40. Farm population of Italy over ten years of age classified according to occupation - 1901 and 1911.

Occupations	June 10, 1911	Feb. 9, 1901
Operating owners	1,715,260	2,537,007
Operators under perpetual lease	29,466	49,485
Cash tenants	694,118	678,863
Managers	27,071	29,090
Crop sharing tenants	1,581,492	1,963,427
Permanent farm laborers	384,593	990,891
Day laborers	4,215,648	2,760,942
Truck gardeners and vine and orchard growers	90,957	82,983
Woodsmen, forest-guards, charcoal burners and mushroom gatherers.	45,170	58,786
Herdsmen, shepherds, cattlemen and stock breeders.	238,271	235,164
Poultry farmers, bee keepers and silk worm breeders.	2,672	1,759
Game wardens and keepers.	1,353	1,343
T o t a l	9,026,076	9,339,740

Censimento della popolazione del Regno d'Italia 10 Giugno 1911.
Ministero Agricola Industry e Commercio, Roma, Bertero, 1916.

Excluding farm laborers hired for wages, there were approximately 1,715,000 persons over 10 years of age occupied on farms operated by owners, largely composed of small freeholds. A slightly less number, 1,581,000 were on farms operated under a system of share tenancy. Less than half this number on farms operated under a system of cash tenants - 694,000. There were 27,000 farm managers. In all probability the greater share of these were employed on the large estates.

In addition, Italian agriculture employed 4,600,000 laborers whose only connection with the land was the wages they received.

Small Freeholds: In 1912 there were in Italy 4,931,000 land-owners, of whom 3,275,000 owned less than 2.5 acres, 614,000 from 2.5 acres to 4.9 acres, 45,000 from 4.9 acres to 9.9 acres, while 342,000 owned farms of from 12.4 acres to 173 acres. The remaining 250,000 farms were above 173 acres. 1/

These figures clearly show the prevalence of exceedingly small freeholds. The 1911 census in dealing with agricultural occupations places the number of operating owners together with members of the family actually employed on the home farm at 1,715,260. (Table 40). When the total number of land owners is compared with the number actually operating their farms, it is evident that the majority of the holdings are so small that the census has placed the owners in another occupational group. Many of the small holdings can be considered as little more than kitchen-gardens belonging to laborers.

L/ Mortara, A. -I doveri della proprietà fondiaria e la questione sociale.

The meaning attached to the terms "small" and "medium-sized" farms differs widely. It varies from province to province, and within the same province. The term "small farm" is based upon a concept, the concept being to afford steady work and a subsistence for an average family. When such crops as vines or citrus fruits or garden truck are raised the area may be only a few "are" (0.025 acre) increasing to 24.7 and 49.4 acres in the districts where extensive farming prevails and to as many as 74.1 acres in mountain districts where part of the land is uncultivated or wooded.

In 1917, the Ministry of Agriculture appointed a commission to inquire into the extent of peasant proprietorship with a view to proposing legislative measures in favor of and for protecting it. ^{1/} This inquiry based on data from 33 provinces representing all parts of Italy, defined a "small farm" as one which can be worked by the farm family without recourse to hired labor.

In north Italy peasant proprietorship is found mainly in the hill and mountain districts. In the South it is on the fertile and thickly populated coast lands.

Although the data secured by this inquiry cannot be considered conclusive, they indicate an increase in peasant proprietorship in most provinces, especially in those where agriculture is most advanced. Of the 33 provinces for which data were supplied, 21 showed a marked tendency towards the subdivision of large estates; in 5 the tendency was restricted to certain districts, in 2 the movement, though formerly active, had ceased as a result of scarcity of labor during the war. In short, there were 23 provinces out of the 33 in which large and medium sized farms are gradually giving way to peasant proprietorship.

The report of this Committee of inquiry expressed the view that:

- (1) The best system of land tenure is that which, under given conditions of time and place, secures the highest returns in terms of production;
- (2) geographical, geological, climatic and sanitary conditions as well as the status of the rural population vary so greatly in Italy that the system of tenure must likewise vary if the highest returns are to be secured.

The Committee's definition of a "best" system of land tenure as one that "secures the highest returns in terms of production" is open to objection on the ground that it gives scanty attention to the importance of the welfare of those who till the land. In those circumstances where the highest returns in terms of production are compatible with an enlightened standard of living on the farm the definition is quite acceptable. The point to be emphasized is that some systems bring about "highest returns in terms of production" at the expense of a mere existence for those who work the land.

^{1/} Per la Piccola Prosperita Rurale e Montana. 1921.

In Italy it is recognized that peasant proprietorship is not economically profitable or applicable to all types of farming under all conditions. It should not be encouraged in mountain districts suited to the growth of timber and to grazing lands, or in districts where the land can be farmed in "family sized" units only after needed drainage, irrigation or sanitary reclamation has been completed. As the improvements entail large capital investment and very expensive public works (roads, water supply, etc.) there must be necessarily a long interval during which these lands are handled as large economic units, used first for grazing, then for cereal and forage crops, and worked with machinery and a minimum of hired labor. Before the war the cost of transforming recently reclaimed lands into small farms was estimated at from \$156 to \$195 per acre.

Such unsuited areas comprise, among others, the large holdings of southern Italy and Sicily. They can only be broken up into freehold farms after heavy expenditure for reclamation purposes. When such lands are excluded, however, there still remains a large area where peasant proprietorship is gaining ground and is considered by the Committee of Inquiry to be economically advantageous to the State. Much of the land which passes into the ownership of the farmer belongs to charitable and other institutions which can be required under law to sell when such sale is held to be in the public interest. As to the causes which promote the breaking up of the large estates, the inquiry states that in 18 provinces inheritance causing division between heirs was an important factor; in 10 provinces, the most important cause was the purchases by laborers and tenants who already occupied the land, made possible by savings accumulated during the war years. Six of these provinces showed frequent purchases by returned emigrants and by small traders grown prosperous during the war. In south Italy and Sicily the perpetual lease was an influencing factor in the breaking up of the large estates.

The inquiry revealed that land values had risen 100 per cent as compared to pre-war prices, the increase being much more considerable in the case of small than of large or average sized holdings. This was due (1918-19) to currency depreciation, higher market values for farm products, and increased demand for land by working farmers. The exception to the rule was in some parts of southern Italy where scarcity of labor as a result of the war led to a stagnation in the market for land.

Of the 33 provinces considered in the inquiry, 23 favored measures to promote peasant proprietorship. Prominent among such recommendations is a system of "homesteading" vacant or poorly cultivated lands; exemption from the land tax in the case of small holdings farmed by the owner; the provision of credit at special interest rates for sums up to half the value of small holdings so as to facilitate purchase; and legislation to facilitate the purchase of small farms by returned emigrants.

It is conceded that Italian agriculture suffers from an excess of large holdings. But it is also agreed that loss may be suffered through excessive subdivision. The "pulverization" of small holdings is complained of in certain districts.

The following pre-war figures show the prevalence of such minute holdings as indicated by land tax returns. 1/

<u>Land tax returns per farm in cents.</u>	<u>Number of farms.</u>	<u>Total amount of land tax collected in dollars.</u>
.19 to 39	2,700,000	387,952
39 to 97	1,230,000	714,274
<u>97 to 193</u>	<u>736,000</u>	<u>914,045</u>
All	4,666,000	2,016,271

This pulverized property, which is prevalent in the South and in the Islands, consists not infrequently of only a few square yards of land, and always of less than 2.5 acres. Also small plots belonging to one owner are often separated by a considerable distance. Compulsory consolidation of plots is recommended as a remedy for this evil.

There is now a Lombardy Land Market, an innovation of post-war years, arising from the increasing demand for land. The Monthly Bulletin of the Lombardy Land Market (February 1925) publishes the following data on the current purchase prices of land:

<u>Location</u>	<u>Kind of Land</u>	<u>Price per acre.</u> <u>Dollars 2/</u>
Lomellina		416 to 499
Sondrio	Irrigated plain lands	624 to 873
	dry lands	499 to 748
	Phyloxera affected vineyards	125 to 249
	replanted vineyards	499 to 998
Mantova	Rice lands	166 to 200
	other lands	166 to 499
Bergamo		333 to 499
Cremona	Dairy districts	466 to 549
Crema		466 to 565
Brescia	Moorlands	166 to 208
	lands poorly irrigated	333 to 499
	good lands	457 to 748
Milan		399 to 499

1/ Per la Piccola Proprieta Rurale e Montana - 1321.

The Italian lira - 19.30 cents at par.

2/ Converted from Italian lira worth 4.11 cents during February 1925.

Cash tenancy: This form of land tenure is prevalent in the Valley of the Po, in certain parts of Venetia, Emilia and Piedmont, and to a minor extent is found throughout Italy. In the Valley of the Po the usual size of farm varies between 24.7 and 247 acres.

The usual term of lease in Lombardy 1/ is for periods from 9 to 12 years and upwards. The annual rent is generally paid in two or three instalments falling due at the periods when the farmer is most likely to have available cash from the disposal of his crops. A deposit equivalent to half a year's rent is paid when the lease is signed.

The tenant pays the taxes levied on the land and buildings, but the value of the national and provincial and half that of the communal taxes is deducted from the rent, whereas the tenant alone is responsible for income tax and provincial and communal taxes on livestock, vehicles and servants.

The management of the farm is left entirely to the tenant. He is, however, required to maintain certain standards specified in the lease. When the lease is drawn up each of the parties appoints an arbitrator to act in case of disputes arising from these specifications. Should the two arbitrators fail to agree, a third is appointed by the court at their request. Their decision is final. The tenant at the expiration of the lease is entitled to compensation for new buildings, providing they have been constructed with the owner's consent. As the law now stands a tenant on the expiration of his lease can make no claim for compensation by the landlord for permanent improvements he may have made on the farm. Should he have made any without the owner's preliminary consent he may be sued for damages. It is felt that this condition is inequitable and a commission appointed in 1905 to study reforms to be introduced into farm leases in the irrigated plains of Lombardy made recommendations which, however, have not yet been adopted. The commission recommended that in the case of permanent improvements, such as draining, leveling and terracing, the owner must give his consent to their being made if they should be judged by the arbitrators appointed under the lease as likely to yield a more considerable profit than the regular interest rate receivable on the capital needed for carrying them out. Three-fifths of the cost would then be paid to the tenant by the owner in the form of deduction from rent, and the remainder at the close of the lease if the said improvements were found to be permanent and valuable.

In other provinces the conditions of the lease vary with the financial status of the tenant. In the irrigated Valley of the Po he is generally a substantial farmer employing a considerable amount of hired labor. In other provinces, as for instance in Venetia, the tenant is generally a man working on a small farm with the help of his own family. The lease will then be for periods of from 1 to 3 years,

1/ Atti della Commissione per lo studio delle riforme al
Capitolato d'affitto dei fondi irrigui lombardi, 1905.

renewable from year to year, and will lay down in greater details the requirements of the owner as to the crops to be raised, and the general management of the farm.

The present tendency in north Italy is for a rapid rise in land values. The rents in 1924 were generally fixed at 5 times the pre-war figures.

The report of the Lombardy Land Market for February 1925 notes the brisk demand for land. That which sells at from \$399 to \$499 per acre rents at \$27 to \$35 per acre, and small farms of less than 2.5 acres rent and sell at higher prices. In the rice growing province of Mantua land is in great demand. In the province of Bergamo land values are rising rapidly; land which sold at \$36 the perch (pertica) in 1924 is now selling at \$70. Rents are rising in proportion.

The situation is considered with anxiety. It has given rise to speculation in land values which has enriched a whole class of real estate operators who buy and sell lands which they have often never seen. Especially it is thought that the high rents now current will injure the cultivation of the land as the tenants will find themselves unable to make the necessary capital outlays while paying the present rents. One of the effects of this boom in land values has been to induce a considerable emigration into France of small land-owning and tenant farmers who have acquired farms in the southwest of that country where farm lands with buildings and equipment sell at from 2 to 3 thousand lire per 2.5 acres. The Italian commissariat of emigration estimates the number of such farmers at 300 in 1923 and 2500 in 1924, and the amount of money invested by them in land and farming operations at 30 million lire. 1/

Crop-sharing tenancy. The most prevalent form of tenancy in Italy is that of crop-sharing. Twice as many farms are operated under this system as are operated by cash tenants.

Crop-sharing tenancy in its present form has been handed down to modern Italy from the time of the Romans. It is a form of lease which has promoted a close relationship between landowner and tenant whom it associates as partners on the farm. Although Italian experience indicates that it tends to make agriculture somewhat static and fails to secure the highest yields and the most profitable use of the land, it promotes, on the other hand, social peace and encourages a succession of crops on lines designed to keep the farm family actively occupied all the year round. Crop-sharing tenancy in Italy tends to promote a self-sufficing type of agriculture.

This form of farming is found in its most typical aspect in Tuscany, Umbria and the Marches and it is frequent in Venetia and Emilia. A mixed form is found in Lombardy, in the Abruzzi, and in

1/ Bolletino dell'Emigrazione, January 1925.

Calabria. Its essential characteristic is the division of an estate into farms of a size which can be worked by the farmer with the assistance of his family and without need of hired labor. It is best adapted to farming requiring careful and minute work; to farms with highly diversified crops, or to orchards, vineyards, olive-orchards, mulberry-tree plantations and silk-worm breeding.

The system works best when the farmer is a responsible and intelligent man with some capital, and when the landlord is enlightened, prepared to invest considerable capital in the land, and to assist in its technical management.

Crop-sharing farming, as a rule, is highly diversified, as the farm family aims first of all at supplying its own wants, including a sufficiency of fibre crops (hemp and flax) for domestic requirements.

The typical crop-sharing lease embodies the following principles; Capital is provided by the owner of the land, labor by the tenant; profits and products are shared as a rule in equal parts, subject, in certain districts, to special agreements for certain crops; farming costs are likewise shared, subject to exceptions in special cases. The owner provides technical and administrative direction.

For certain types of farming and in certain districts the crop-sharing lease includes modifications. For instance, in some cases, the whole outlay for mulberry tree cultivation and silk-worm breeding is debited to the landowner; the livestock and its products belong exclusively to the farmer; rent below a commercial rate is paid for the farm-house, and a certain number of days of work are given by the farm family to the land owner at reduced rates of wages. Recent forms of leases place an emphasis upon the friendly relation of a business partnership between landowner and farmer on the crop-sharing farm.

In the years immediately following the World War, violent agitations against the crop-sharing system were fomented by political parties. These often assumed a revolutionary and communistic character, more especially in Emilia and Venetia, where the existence of large bodies of landless agricultural laborers had placed the crop-sharing lease on a less sound foundation than in central Italy. The leases in these provinces were unfavorable to the tenant. The agreements extorted from the landowners under threats of strikes and violence in 1919-1920 reversed the situation to the detriment of the owner to an extent which made this form of tenancy unprofitable for the landowner.

The results, as shown by the experience of 1920-21 and 1922, led to a reconsideration of the whole situation. The new leases now being put in force (November 1924) for the usual three-year period are the result of an agreement between the organizations of landowners and those of the crop-sharing farmers. These leases return to the

typical division in equal shares of costs and profits of the farm, while the owner provides the livestock and farm-house buildings, pays the land tax and the cost of land improvements.

The prolongation of the duration of the lease, the introduction of a clause under which a lease can only be revoked on showing "just causes", the recognition of the right of the tenant to an option on the farm in case of sale and to a voice in its management, are all modifications of the crop-sharing tenancy system which are being agitated.

The following summary of income and expenditures of a crop-sharing tenant operating under a typical form of agreement gives a clearer picture of the relation between landlord and tenant.

Area: 19.8 acres. Farmed by tenant and his family consisting of 7 men from 16 to 69 years of age and two women who attend to the home. Leased on the crop-sharing contract. A four-year rotation is followed with about half the land under wheat; one quarter being renewed with hoed crops (beets and corn); one quarter meadow with clover and alfalfa. In addition autumn-winter grass is grown as a catch-crop (on one quarter of the farm) between the wheat harvest (in June) and the renewal work (March-April). Vines are grown in rows along the edge of the fields. The live-stock consists of 2 oxen for draft purpose, of 5 cows for work and milk. A donkey is kept for light carting.

The tenant is the owner and has sole rights to the benefits of from 35 to 40 hens, 3 rabbits, 4 pairs of pigeons and a pig.

SUMMARY OF TENANT'S RECEIPTS AND EXPENSES
from a Tuscany farm operated under
a typical crop-sharing lease-1923.

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Tenant's Share of Receipts.

		<u>Dollars</u> <u>1/</u>
Dwelling house and farm buildings		
free of rent		55.22
Tenant's half of the crops:	<u>Dollars</u>	
Wheat	188.67	
Oats	24.85	
Corn	67.64	
Beans and potatoes	9.89	
Sugar beets 140 x 13	83.75	
Clover seed 70 x 5	16.10	
Wine, farmer's half and the premium on 239,338 gals. at L.65 free of tax	<u>270.99</u>	661.89
Tenant's half of live-stock business:		
Milk	243.16	
5 calves born and sold	<u>67.90</u>	311.06
Activities from which the tenant receives whole of income:		
Profit on sale of eggs, capons, fowls, rabbits, pigeons, and fattening of one pig		185.90
Vegetable garden - (About one-tenth of an acre in which he grows vegetables for his own use.)		20.70
Sundry receipts:		
Wood from pruning, sale of fruit, and some milk for family use.		<u>41.44</u>
Total of Tenant's Receipts		1,276.21

1/ In 1923 the average value of the Italian lira
was 4.6016 cents.

Tenant's Share of Expenses.

Tenant's half of expenses incurred for the following items:

	<u>Dollars</u>	<u>1/</u>
Chemicals and organic fertilizers	23.61	
Fungicides		
(copper sulfate and lime)	22.27	
Props for the vines	18.41	
Expenses for thrashing; fuel and		
maals for the men	<u>7.82</u>	72.11
Tenant's half of expenses for equipment:		
Upkeep and repairs to carts;		
machinery and implements		14.26
Tenant's half in outlay on live stock:		
Concentrated feeds and litter	20.71	
Insurance and municipal duty on livestock	17.72	
Seeds for meadows and autumn-winter		
grass crops	9.66	
Veterinary, blacksmith, and use of bull	<u>7.82</u>	55.91
Expenses debited solely to the tenant:		
Household tax; tax on income derived		
from the farm; upkeep to the equip-		
ment required in the barns, etc.		27.61
Returns for labor of tenant and his family:		
(Receipts minus expenses)		<u>1,106.32</u>
		<u>1,276.21</u>

1/ In 1923 the average value of the Italian lira
was 4.6016 cents.

The Latifundia. The Latin term "latifundia" is applied to large estates in the South cultivated extensively and given over largely to the growing of cereals and "fave" (horse-beans), alternating with grass. They are under single management and usually cover an area varying from 371 to 2,471 acres of land undivided by hedges or fences of any kind.

The farm buildings are in the center of the estate. The buildings are not unfrequently held in common by two or more estates. They are arranged in a square around a courtyard with a well. They usually consist of a home for the manager, quarters for his staff and for the permanent laborers and their families, together with stables, storehouses and a chapel. The doors and windows all open on the courtyard. When seen from the outside the whole block resembles a fortress. There may be some huts outside the enclosure for temporary shelter to seasonal workers and perhaps space for small vegetable gardens. The latifundia is generally under a three-year rotation, one-third under wheat, one-third under grass, one-third under "fave". The area under wheat is assigned year by year to laborers who sow, till and harvest the crop. Sometimes they receive a cash wage, but more often payment is made in kind. The third under grass is occupied by the herds and flocks of the owner or his factor (gabellotto). The latter may lease the ground to an association of shepherds.

The Government inquiry into the agricultural conditions in southern Italy showed that in 1910, in Sicily, 1400 latifundia covered an area of 1,773,507 acres. This area is equal to 30 per cent of the total area of the island. These estates belonged to 787 owners, of whom 614 possessed 827,862 acres and 173 possessed the remaining 945,645 acres. That is to say, 787 persons out of a population of 3,500,000 owned one-third of the island and 173 over one-sixth. 1/

The size of the latifundia is better illustrated by the following figures:

<u>Size</u>	<u>No. of Owners</u>	<u>Area owned</u> <u>Acres</u>
494 to 2,469 acres	614	827,862
2,470 to 4,940 "	103	347,173
4,941 to 9,882 "	51	327,270
over 9,883 "	19	271,202
	<u>787</u>	<u>1,773,507</u>

For decades, or rather centuries, the problem of breaking up the latifundia and converting them either into small freeholds or into family farm units leased to tenants has been the subject of study and legislation. The existence of the latifundia is generally looked upon as a social evil, especially in densely populated territories such

1/ Lorenzoni, G. La Trasformazione del latifondo in Sicilia.
Nuova Antologia, febbraio 1922, Roma.

as Sicily and southern Italy. The primitive methods practised on such estates result in an economic waste, since the crop yields and money returns are low when compared to those obtained on small-sized farms.

The figures in Table 41 compare yields in Piedmont, Lombardy and Tuscany, where the latifundia do not exist, with those in Latium, Basilicata and Sicily, where such estates prevail.

Table 41. WHEAT: Yield per acre in specified districts, 1909, 1910 and average 1911-22.

District	Mountain		Hill		Plain		Average
	1909	1910	1909	1910	1909	1910	1911-22
	<u>Bushels</u>	<u>Bushels</u>	<u>Bushels</u>	<u>Bushels</u>	<u>Bushels</u>	<u>Bushels</u>	<u>Bushels</u>
Piedmont	15.2	17.5	17.1	18.1	19.5	22.3	16.8
Lombardy	14.1	13.7	17.4	18.1	23.8	23.2	23.0
Tuscany	12.2	11.3	14.7	12.9	16.2	16.5	14.6
<u>Basilicata</u>	12.9	6.5	19.5	11.7	16.5	8.3	11.4
<u>Latium</u>	7.7	5.2	12.6	9.8	16.1	15.5	13.2
<u>Sicily</u>	13.5	12.0	14.3	11.9	15.3	14.1	11.7

Valouti, G., L' Italia Agricola Sol 1861 al 1911 and Notizie Periodiche Si Statistica Agraria, September 1923.

The above figures show the lower yield in latifundia areas. However, it is not entirely clear that the low yield is due to the methods practices inherent in the operation of large farms. Rather are both low yields and latifundia the effects of the same cause. In other words, both low yields and the latifundia are children of the same parent - a semi-arid climate.

All efforts have so far failed to bring about a change through the breaking up of these estates. This is due in a large measure to the fact that the latifundia are principally the product of adverse conditions - climatic and social - such as drought and the absence of drinking water, malaria, lack of roads and absence of public security.

Destruction of forests in past centuries has left the mountains of southern Italy and of the Islands bare of vegetation. This, together with unregulated water-courses, have intensified the disadvantages

of a naturally dry climate. On the latifundia the few wells are often brackish, polluted with sulphurous emanations from the soil which make the water unfit for human consumption.

Another, though subsidiary cause of the latifundia is malaria, which makes it impossible for the peasantry, under existing conditions, to settle on the land. Malaria leads to absentee owners and a physically deteriorated peasantry.

The lack of roads is another reason which hinders the disappearance of the latifundia. There are national and provincial roads in these provinces, but a notable deficiency of local and minor highways.

This, in turn, leads to inadequacy in the policing of the district which, in turn, leads to insecurity of property. It also works disadvantageously in the grazing industry. The peasants must of necessity keep a large number of pack horses, mules and donkeys, since this is the only practical means of transportation. In north Italy there are .0008 miles of communal roads per square mile of area, in Sicily the ratio falls to .0001 mile.

As a result of all these conditions, the peasantry, instead of living on the land they cultivate, crowd into big villages, sometimes with a population of even 20,000 inhabitants, the workers having to walk for one, two or three hours to get to their work. In some cases, the villages are so far from the land that the workers are often compelled during weekdays to live on the land in temporary straw huts under primitive conditions.

The transformation of the latifundia is contingent on the ability of the State and the landowners to make heavy investments: (1) by the State, in building a system of artificial reservoirs in the mountains by which it will be possible to regulate water courses and provide for irrigation, as well as to provide power for railway and industrial development; and by following up this hydraulic improvement by drainage, land reclamation and road building; (2) by landowners, in improving their lands and providing more and better buildings for the peasants.

A progressive and experienced landowner l/, in a debate in the House on the question of the latifundia placed the cost of land reclamation at 2,023 lire per acre to the owner and 2,023 to the State. In Sicily alone there are 1,729,700 acres which call for such reclamation which would entail an investment of from 6 to 7 billion lire apart from the purchase price of the land.

l/ Prince Boncompagni Ludovisi.

While there is no probability of changes on a large scale within the immediate future, a serious start has been made toward the ultimate solution of the problem by the great hydraulic works now nearing completion in Calabria (Silla plateau), in Sardinia (Tirso barrage) and in Sicily (Piano dei Greci), and also by the completion of the Apulian Aqueduct which distributes water over a large area to a dense population which has hitherto suffered from an insufficient supply.

The present Government has also appropriated goodly sums for road building in all these provinces, and has enacted legislation in land reclamation which lays the foundation for gradual progress in the direction of better use of the land.

SUMMARY

The outstanding feature of the conomic phases of Italian agriculture is the enormous burden placed upon the rather limited agricultural resources of the country by a dense population increasing at a rapid rate.

Forty-one million people live on an area less than that of the State of California. One-half this number is directly dependent upon agricultural pursuits for a livelihood. This condition explains in a large measure why all land which will return a mere existence is brought under cultivation. One-half of this mountainous semi-arid country is worked with the plow and spade. A surplus of labor together with limited land area results in the extravagant expenditure of man power in agricultural production as contrasted with American practices. If one may hazard a generalization, Italian husbandry is typified by a generous use of human labor and a restricted use and application of material and supplies. The national problem is that of maintaining a balance between agriculture and other industries in relation to the rapidly expanding population. Difficulty in finding suitable emigration outlets makes the population problem a more pressing one.

Land reclamation, irrigation, drainage, and malaria control, will bring important additional areas in Italy under cultivation. Relatively speaking, however, the areas thus reclaimed will not be large. In fact, Italy may expect a decrease in tillable land if wages and the standard of life increase to any considerable extent. In such a case much sub-marginal land now cultivated that returns the tiller a mere existence will revert to forest and pasture uses.

Increase in agricultural production must lie largely in the field of improved cultural methods, rather than through the enlarging of the agricultural areas. To this end Italy has recently passed legislation designed to coordinate and extend her system of agricultural education and experimentation.

Because of the variety of climate and topography, Italian agriculture ranges in types covering those of all Europe. From the standpoint of area, wheat is the most important product. About 35 percent of the plow land was given over to this cereal in 1923. The production of bread cereals has received undue encouragement, in Italy, because of the policy of the nation as well as the desire of the individual farmer to be self-sufficing. With the single exception of rice, Italy does not grow enough cereals for her own needs.

From the standpoint of value of the product, grapes and wine occupy a place of equal importance with that of wheat. Because of the increasing difficulty of finding profitable export markets, it is probable that wine production will decline.

Citrus fruit growing has recovered from its post-war crisis, caused by the impoverishment of European markets. Expansion of this industry will depend largely upon the possibilities of increasing export sales of citrus fruits and their by-products.

Olive growing, on the other hand, offers a promising opportunity for expansion.

Potatoes are becoming more important each year as a product of Italian agriculture.

Over one-third of the agricultural area is given over to the production of forage crops. Most of this, however, is permanent pasture on lands unsuitable for other uses. One-fifth of the total land area of Italy is pasture. Yet a development of the livestock industry depends largely upon increased production of forage crops.

Italy is second only to Russia in the production of hemp and second only to Japan and China in the production of raw silk. Tobacco growing is becoming of increasing importance under paternalistic encouragement by the Government. But of all the industrial plants, sugar-beet growing shows the steadiest development.

Livestock production is not sufficiently developed to meet the needs of the nation. Although Italy consumes relatively little meat per capita, she fails to supply her own needs. Only in goats and burros has Italy more livestock per 100 inhabitants than has the United States. The United States has 8 times as many horses, 4 times as many mules, 4 times as many cattle, 8 times as many hogs and one and one-half times as many sheep per unit of population as has Italy. Increased livestock production demands more homegrown forage at an expense of land now used for the growing of other products as well as increased importation of feed stuffs.

Italy's requirements of forest products are far above her production. Of recent years Italy has taken energetic steps toward conserving and increasing her forest resources.

Agricultural products account for around three-fourths of Italy's foreign trade, both as concerns imports and exports. The notable characteristic about her foreign trade in agricultural products is that the imports are made up largely of staple food products, - necessities - while her exports consist in a large measure of what may be considered luxuries - raw silk, wine, and citrus fruits.

Italy represents the two extremes in land tenure - "pulverization" of holdings and "latifundia". As regards pulverization, 3,275,000 landowners are reported as owning less than 2.5 acres. Not only is the area of individual farms small, but this area is often broken up into separate pieces. Instances are not unusual where these separate pieces consist of a single tree or one row of vines. The holdings are little more than kitchen-gardens, yet they form an important source of livelihood for their owners. In fruit growing and vegetable gardening 2.5 acres ordinarily suffice to maintain a family.

The opposite extreme is the large estate "latifundium" given over principally to cereals, grass and sheep, handled in a primitive manner. In some cases these estates are rented to an agent who in turn rents them to other tenants. In such cases a deplorable state of agricultural life is found and the tenancy system at its worst. Not all the land is held under the conditions represented by these extreme forms. Peasant proprietorship of "family-sized" farms and cash and crop-sharing tenancy of farms of that type represent wholesome economic and social standards when compared to those of the country as a whole.

One-ninth of the entire population of Italy is classed as occupied farm laborers. The greater portion of these - 4,200,000 - are casual day laborers, whose only connection with the land is the wages they receive for their labor on the land. The wages of day-laborers range around 2 lire per hour for an 8 to 10-hour day for men - 60 to 90 cents - and about half this wage for women. This class presents serious economic and social problems unknown in the United States.

Measures taken by the Italian Government

in conducting

the

"BATTAGLIA DEL GRANO"

(Battle of Grain.)

(July and August 1925)

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The poor harvest of 1924 (46,000,000 qls. of wheat) made it necessary for Italy to import large amounts of wheat in 1924 - 56.7 million qls. August 1st - July 31st, 1924-25 as compared with 46.7 qls. for the corresponding period of the previous year). This adversely affected Italy's balance of trade, and was held largely responsible for the further depreciation of the lira which has taken place in 1925.

In view of this situation Mussolini initiated in July of this year a nation-wide movement, known here as "The Battle of Grain," to increase national production of this crop. The following is a summary of the legislative measures taken with this end in view:

I. Decree Law 4th July 1925 establishing a permanent Wheat Committee.

This measure established, under the department of the President of the Council of Ministers, and under the personal orders of the President of the Council (Mussolini), a permanent Committee consisting of nine members.

Its purpose is to study and submit to the Government measures for increasing the wheat output of the country.

Its meetings are presided over by the President of the Council, or in his absence by the Under-Secretary of State for Agriculture.

The executive organs of the Committee are all the Government scholastic, and syndical agricultural institutions existing in the country.

The necessary funds for the Committee are placed on the budget of the Ministry of National Economy, and for the present year are provided by a decree of the Minister of Finance.

II. Decree Law of 4th July 1925. Appoints the nine members of the Committee.

III. Decree Law of 24th July 1925. Revived the customs duty on wheat at the rate of Lire 7.50 (gold) per quintal, which had been suspended since 1914.

The purpose of this measure was to reassure farmers as to the price they would secure for the product which they are now urged to grow in larger quantities than in the past.

IV. Decree Law of 26th July 1925. Exempts from customs duty and from the tax on sales the quantities of petroleum required for farm tractors.

The purpose of this measure is to encourage the use of tractors, which are required more especially on recently reclaimed lands brought under the plow.

V. Decree Law of 29th July 1925. Provides measures for ensuring extension work among the farmers, to encourage improved cereal cultivation by means of demonstration and experimental fields, and local measures intended to promote an increased output. For these purposes the following sums are provided:-

(1) An extra annual grant of 3,500,000 lire to the travelling chairs of agriculture. This brings the total amount assigned by the Government for this purpose up to 7,000,000 lire a year. Besides this, large contributions are made to these chairs by local government bodies and public utility corporations.

(2) For the southern regions and the Islands, in those parts where cereal cultivation is important, the Ministry of National Economy is empowered to increase the number of the travelling chairs, and a special contribution will be made for each such chair of 22,000 lire a year besides local government contributions.

(3) These travelling chairs of agriculture are required to organize in each commune a demonstration field averaging a hectare in area, which will be used as a basis for practical propaganda, and for vocational training of the local peasantry. When the cost of such field is not met by local authorities, the Ministry of National Economy will supply the requisite funds, for which an annual sum of 7,000,000 lire is provided in the budget.

(4) To enable the agricultural colleges and experimental stations throughout the country to intensify their studies of problems referring to wheat production, the Minister of Economy is empowered to distribute an annual sum of 4,000,000 lire. Assignments on this fund will be made to Institutes after they have submitted their programmes to the Permanent Wheat Committee, the Annual Meeting of the Directors of the Experiment Stations, and the Board of Directors of the Foundation for Agricultural Experimental Research Work, who

will be required to give their opinion on the value of the proposed projects.

(5) Local organization. Under the auspices of the provincial Agricultural Council, or failing that, of the Prefecture, in each province a Provincial Commission for wheat propaganda is established consisting of: the technical heads of the agricultural institutions of the province, a farmer appointed by the Facist Provincial Federation; a farmer appointed by the Provincial Federation of the National Association of War Veterans, two agricultural technicians appointed by the Provincial Federation of the Syndicates of Agricultural Technicians, a farmer appointed by the Federation of Agricultural Syndicates, an agricultural laborer appointed by the Provincial Federation of Syndicates of Agricultural Laborers, and three other farmers appointed by the Ministry of National Economy selected from among those who have secured the highest cereal yields per unit.

This Commission is presided over by the President of the Provincial Agrarian Council. In those provinces in which such Agrarian Councils do not exist, the President of the Council of Ministers will himself appoint the President.

The Director of the travelling chair of agriculture of the province is appointed as Secretary of the Commission.

The Provincial Commissions have the following duties:

(a) To set forth in clearly expressed statements in keeping with the general program of agricultural progress the leading requirements (local, technical, and economic) of the grain propaganda, and of action to increase the wheat output, taking into due regard the several zones and the local conditions of the province.

(b) As soon as these principles have been approved by the Permanent Grain Committee, the Commission will attend to applying measures for increasing the grain output of the province.

(c) The Commission will also attend to utilizing for future needs the technical and scholastic institutions and agricultural syndicates, as well as the agricultural technicians registered with the Provincial Syndicates, all of whom will be required to work in the township in which they reside. When technicians of known capacity are residing in a township, the Provincial Commission will entrust to them the supervision of the demonstration fields and the propaganda connected therewith. An amount of 2,500,000 lire is assigned on the budget of National Economy for the expenses connected with these Commissions for the year 1925-1926.

VI. Decree Law of 29th July, 1925. Takes measures for encouraging the production of selected seeds.

The sum of 3,000,000 lire is assigned for the purpose of establishing five associations, in southern Italy and in the Islands, in the Province of Rome, and in the Tuscan Maremma, for the purpose of producing and distributing selected wheat seed in amounts of not less than 2000 quintals a year.

The Government contribution to the cost of this work refers to the outlay on buildings and machinery, and will be made up to 50% of the cost.

The associations thus subsidised must receive the preliminary approval of the Ministry of National Economy, to whom they must submit their plans. They will be under the control of an Institute of Seed Breeding selected by the Ministry.

Similar institutions set up by associations for the production of selected seeds to other regions of Italy will receive from the Government a contribution not to exceed 25% of establishment expenses, provided they are in zones not already adequately served by existing bodies.

The Ministry of National Economy may also offer prizes to promote the enlargement, better equipment, better organization of such stations, and to enhance the distribution of seeds by existing associations formed for that purpose. For these purposes a sum of 2,000,000 lire is placed on the budget of the Ministry of National Economy for the year 1925-1926.

VII. Decree Law of 29th July 1925. Takes measures to encourage the use of motor plows and electrical cultivation. Loans at special rates, and contributions provided for under previous laws of 1905 and 1910 dealing with land reclamation in the "Agro-Romano" are now extended to the southern Provinces and Islands, to the Province of Rome, and to the Tuscan Maremma, and to moor lands or recently drained lands in other provinces where extensive agriculture prevails, said loans to be applied to the purchase of steam machinery for the mechanical plowing of the lands. The rate of interest charged on these loans is 2 1/2%, and they are repayable in 45 annuities beginning from the fifth year after the loan is made. For the first five years the borrowers pay only the interest on the loan, and in the 45 succeeding years a quota of amortization is added to the interest payment.

From the financial year 1925-1926 an additional sum of 10,000,000 lire per year will be given in addition to the 30,000,000 already provided by the Law of 1906 for these loans, and an additional amount of 3,000,000 lire is assigned for contributions and awards.

The associations of farms or corporations are formed in the southern Provinces and in the Islands, or in the Province of Rome, and in the Tuscan Maremma, for the purpose of undertaking plowing on behalf of farmers in certain zones suited to cereal cultivation, and which have not been brought under the plow because of the lack of means for working them, the Ministry of National Economy is authorized

to pay for each hectare of land so plowed an award of 75 lire for careful plowing 20 centimeters deep, or 150 lire for careful plowing 30 centimeters deep. The award is given, two-thirds to the farmer and one-third to the organization for motor cultivation.

When these Consortiums are organized exclusively by farmers the awards are increased by 10%.

In all cases the organization for motor plowing must possess at least 10 motor plows.

Tractors purchased after the 1st January, 1929, must conform to requirements which will be set forth in a special regulation.

The zones of land dealt with will be determined by the Ministry of National Economy, and the organization for motor plowing will have to submit to the said Ministry a special agreement, fixing the price for plowing per hectare which the farmer will be required to pay to the organization.

The above measures will also be applied in favor of Consortiums of farms or organizations which undertake mechanical seeding on behalf of farmers. The award in this case will be 60 lire for each hectare of land thus seeded.

A sum of 2,000,000 lire is assigned on the budget of the Ministry of National Economy for the purposes of these awards.

The Government's subsidies and contributions towards electric lines and electric stations foreseen under the laws of 1909 are extended in the case of installations begun after the 1st of January, 1925, to all persons engaged in constructing such plants, provided they be not farmers and Consortiums to whom the previous awards were given.

An award of 10 centimes for every kilowatt hour of electric energy used in plowing lands or in harvesting will be paid exclusively to farmers (either individuals or organized associations) on whose behalf the work is executed.

VIII. Decree Law of 29th July, 1925. This law provides "Prize Competitions" for the intensification of cereal crops. The expense of these competitions is met by the State, which assigns for this purpose a sum of 2,000,000 lire on the budget of 1925-1926.

Besides these national prize competitions, the Ministry of National Economy will subsidise local prize competitions wherever they seem desirable, provided the object to be obtained in the zone under consideration be carefully defined. The Provincial Commission for Wheat Propaganda will be required to give its opinion on this object. A sum of 1,500,000 lire is placed on the budget of the Ministry of National Economy for these local prizes.

Diplomas and medals will be awarded to organizations and

individuals, who, at their own expense, organize prize competitions for wheat cultivation among farmers dependent on them, provided the programmes have been approved by the Permanent Grain Committee.

IX. Decree Law of 29th July, 1925, provides further agricultural credit facilities. The Deposit and Loan Bank is authorized to anticipate to the Ministry of National Economy for the above purpose a sum not exceeding 100,000,000 lire for the 3-year period 1925-1927, to be paid out in three annuities. Each of these annuities will be repaid by the Ministry to the Deposit and Loan Bank in 30 annuities covering capital and interest at the rate of 4.75% per annum, beginning from the year following that on which the loan was made. On these sums the Ministry of National Economy will make loans to the agricultural credit banks established under special laws, who, in their turn, will repay them to the Treasury in 30 annuities beginning 5 years from the date on which the loan was made. A special provision is made to prolong the period and facilitate the mode of repaying agricultural credit loans which have already been made to grain farmers in the Provinces of Bari, Campobasso, Foggia and Potenza.

A further extension is made of those loans on which the Government contributes towards the interest payments, as provided under a previous law of December, 1923, provided said loans are used for building warehouses, or cooperative elevators for storing grain in any part of the kingdom, and provided that the members of said co-operative elevator associations are themselves farmers and producers of the grain in question.

Circular issued by the Ministry of National Economy on the 13th August, 1925, to the Directors of the Travelling Chairs of Agriculture, explaining the measures which the Government is taking to increase wheat output. 1/

For the purposes of the wheat campaign, and for the application of the laws relating thereto which the Government has enacted, the travelling chairs of agriculture will be considered as the mobilization centers for farmers, and the centers of activity for arousing the rural classes throughout Italy to the need of reducing dependence on foreign grain crops. This campaign is one which involves, of course, the whole problem of agricultural progress.

In laying the foundations for the organization of the work to be undertaken, the Government has provided the travelling chairs with adequate means. An extra 3,500,000 lire has been assigned to the fund for these chairs, and new ones will be established at the expense of the Government in the more needy zones of the South and the Islands.

The Government has believed it indispensable to ensure the Italian farmers a remunerative price for their wheat, and has therefore reintroduced the customs duty thereon. This action of the Government places a special responsibility on the farmers.

1/ The Travelling Chairs of Agriculture correspond to the County Agent System in the United States.

The legislative measures which the Government has enacted for this purpose are inspired by the policy of affording agriculture the means for technical progress, which is the fundamental principle of the Government's agrarian policy. These cover agricultural instruction in all its forms, including practical demonstrations, the use of selected seeds and of scientific fertilizers, scientific plowing and seeding, assistance by means of agricultural credit, and the awakening of a spirit of emulation by means of prize competitions. You are earnestly urged to do all in your power to see that these measures are so applied as to be advantageous to the general development of agriculture in your district.

Practical demonstrations. The travelling chair is required to open a demonstration field in each commune, acting jointly with the Provincial Commission for Wheat Propaganda which is being formed in each Province. The cost of these demonstration fields, when it cannot be met by local bodies or by agriculturists willing to undertake it in whole or in part, will be met by the Government.

The Government will provide adequate means, but it is necessary - more especially in the Provinces where agriculture is more developed - not to place too heavy a burden on the Government, and undoubtedly many communes will find (and it will be the business of the Provincial Commission to find them) organizations willing to meet the cost of the demonstration fields. But whether the expense be met by the Government, or by local organizations, or private persons, the responsibility for carrying out the policies adopted by the Provincial Commission and approved by the Permanent Grain Commission, and the responsibility for their success, lies with the Travelling Chairs of Agriculture to whom is entrusted the task of showing the farmers by practical demonstration those steps which the Chair deems necessary, in view of the specific conditions of each district, for the increase of production. Of course, the duration of the demonstration field, where necessary, will cover a whole rotation period. It is therefore the immediate duty of the Chair to prepare the program for this demonstration field, which will be examined by the Provincial Commission, together with a detailed statement of expenses. The Ministry will then approve the program and estimates, and will provide the financial resources when necessary.

Production of selected seed. Encouragement for the production of selected seeds will be given in identical manner to all parts of the Kingdom. The only difference will be in the measure of the Government contribution, which will be twice as large for seed breeding associations organized in the southern Provinces, the Islands, the Province of Rome, and the Tuscan Maremma.

Apart from this work, the Provincial Commission will have to organize an intensive local usage of good seeds. This must be a fundamental factor in action.

Breaking up of fallow lands, motor plowing, and electric cultivation. You will please inform the farmers of your locality of the provisions of the Decree of the 29th July last on this matter, pointing out to them the application which may be given to it in your special district. Your knowledge of local conditions will suggest to you the persons and organizations with whom you should work to induce them to purchase steam machinery for mechanical plowing of lands, and for the formation of Consortiums for motor plowing, illustrating the special advantages which farmers will obtain by themselves organizing associations for this purpose. You will also make known the advantages of machine seeding, and the new measures taken to promote the use of electricity in farming. You must also make widely known the increased facilities which are now granted for the use of petroleum required for motor tractors.

Prize Competitions. The Prize Competition for wheat growing, which has been held during the last two years, is now declared a national event. You will carry on an active propaganda to make this known, and with a view to acquainting farmers with the conditions of the competition. You will also make known in the agricultural circles of your district the measures taken by the Government to promote special provincial prize competitions.

Agricultural Credits. The measures enacted by the law of the 29th July, 1925, on this matter are in part national and partly refer only to certain Provinces. It will be your duty to make known to the farmers in your district the advantage they can secure from these measures.

The Director of the Travelling Chair of Agriculture is appointed Secretary of the Provincial Commission for the wheat propaganda. By this means the Commission and the Travelling Chair are kept in close contact, while at the same time the duties assigned to each are clearly defined, and depend on the different characters of the two Institutions, which are expected by their earnest cooperation and their knowledge of conditions, and due sense of responsibility, to contribute all in their power to the success of the programs.

SIGNED BY THE MINISTER.

Circular of the Ministry of National Economy to the Presidents of the Provincial Commissions for the Wheat Propaganda. Communicated also to the Prefects of the several Provinces.

I am forwarding you herewith a copy of the law adopted by the National Government to promote wheat production. All these measures aim at providing by organizations and by technical and financial assistance the requisite means for winning the wheat campaign, to which the head of the Government has called all the farmers of Italy.

The pivot of the local organizations will be the Provincial Commission for Grain Propaganda, to which the Government has called men who really represent live local energies and the most progressive

elements in local agriculture.

I expect from these Provincial Commissions faithful, intelligent, and assiduous efforts towards the carrying out of the tasks assigned them by the law of July 29th, 1925. They are to be the motive power in generating the new agricultural activities which must be awakened throughout the Italian countryside. They will be the centers for the mobilization of agricultural technicians, and of the technical scholastic, and syndical agricultural organizations. Acting jointly with agricultural institutions, and more especially with the Travelling Chairs of Agriculture, and taking into due consideration the specific conditions of the province and of its several districts, they will be required to utilize local action for the increase of the wheat yields, working in harmony with the wider general directions which will be issued by the Permanent Wheat Committee. They are to use the Directors of the Travelling Chairs as their executive secretaries, thus avoiding expense for clerical staffs, the opening of offices, etc., and they will be the co-ordinating organs for carrying out the measures for agricultural progress throughout the country.

The Government wishes by means of demonstration fields (for which it provides the funds) to give direct proofs to farmers throughout Italy of the possibility of introducing technical improvements into the cultivation of cereal crops, and the certainty of economic success which attend such efforts.

It is also decided to encourage by conspicuous financial assistance the production and distribution of selected seeds, and the purchase of machinery for scientific plowing and seeding, and it desires to make available to farmers the technical means required for agricultural progress. It is now the business of the Provincial Commissions to arouse interest among the rural classes in all these measures taken on their behalf.

The work of propaganda will find effective assistance in the spirit of emulation which must be aroused among the farmers, and with this need in view the prize competition for wheat has been made into a national affair, and at the same time the Ministry of National Economy will subsidize local competitions among wheat growers.

It will be the business of the Provincial Commissions to study jointly with the Travelling Chairs and other agricultural institutions the possibility and advisability of opening local competitions, and to determine the means in regard to the objects in view, which must be carefully specified in accordance with the requirements laid down by law.

In matters of agricultural credit it will be the business of the Provincial Commissions to see that the facilities granted by the law of 29th July, 1925, are properly understood by the farmers of the zone, so

that they may derive full benefit therefrom.....
.....

It is necessary that the Commissions should start work at once, and I wish that they may be called by the Prefects so as to hold their inaugural meeting not later than the 20th August.

SIGNED BY THE MINISTER.

The several Provincial Commissions were organized in August.

Presiding over the first meeting of the Permanent Wheat Committee, Mussolini, in his inaugural speech, stated: "It is not strictly necessary to increase the area under wheat in Italy. Land must not be taken from other crops which may be more profitable, and which, in any case, are necessary to complete the circle of national economy. Therefore, an increase in area under wheat should be avoided." And he went on to say that "what is necessary is to increase the yield on the areas already under several crops by using selected seed and chemical fertilizers, and by taking measures to ensure a better price to the farmers."

On October 11th a great meeting of wheat growers attended by over 1000 people was held in Rome, at the close of which prizes and awards were distributed to those persons who had obtained the largest yields in 1925. Addressing this meeting, Mussolini again emphasized that the object to be aimed at is not to extend the area under wheat but to obtain a larger yield per unit of land. From all parts, he said, agricultural experts reported the possibility of increasing production from 1 to 2 quintals per hectare by the adoption of more scientific systems of cultivation. And he set this before the meeting as the immediate purpose to be achieved.

The organizations which are being used for the purposes of this campaign are the following:

- The Permanent Grain Commission. President - Mussolini.
- The Provincial Grain Commission.
- The Travelling Chairs of Agriculture.
- The Provincial Councils of Agriculture (where they exist.)
- The Agricultural Colleges and agricultural high schools.
- The Fascist Syndicates of renters, of crop-sharing farmers, and of agricultural laborers, and the Fascist Syndicates of land owners, all of which are united in the National Corporation of Agriculture.
- The National Union of Agricultural technicians (comprising the farm managers - fattori - as well as agricultural engineers, directors of experiment stations, agricultural professors, etc.,)
- The Federation of Italian Agricultural Consortiums.

All these bodies are organized locally, provincially, and nationally, and supply the workers for the movement. An appeal for help is also being made to the rural clergy.

Special educational films have been made by the Educational Cinema Union, which is officially recognized as a National Institute for propaganda by films. These will be shown in all rural centres.

